

MANUFACTURERS' RECORD.

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RICHARD H. EDMONDS,
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BALTIMORE, JANUARY 24, 1896.

What Advertising in the "Southern States" Does.

Mr. H. W. Wilkes, Louisville, Ky., dealer in Florida lands, writes to the "Southern States" as follows about two small advertisements he had in the December number: "On my return from my annual Florida tour I find your statement for December advertisements, and I enclose draft for same. I am pleased to say that the "Southern States" magazine was mentioned by 207 persons who wrote for my new Florida catalogue, and by 190 others for the descriptive list of little colony and home tracts, twelve among the latter making acceptable offers for immediate purchase, and three others arranging for later purchases of large tracts. I enclose three advertisements for your next issue."

The "Southern States" magazine is published by the Manufacturers' Record Publishing Co.

The production of pig iron in the South for the last three years has been as follows:

States.	Gross tons of 2240 pounds.	1893.	1894.	1895.
Maryland.....	151,773	5,600	10,916	
Virginia.....	302,856	298,086	346,589	
North Carolina.....	2,843		323	
Georgia.....	39,675	40,268	31,034	
Alabama.....	726,888	592,392	854,667	
Texas.....	6,257	4,671	4,682	
West Virginia.....	81,591	80,781	141,968	
Kentucky.....	47,501	33,854	63,780	
Tennessee.....	307,915	212,773	248,129	
Total.....	1,567,299	1,368,425	1,702,088	

The production increased heavily during the latter part of the year, having been 960,000 for the second half of the year, and at the close the output was at the rate of nearly 50,000 tons a week.

In 1880 Major Jed Hotchkiss, of Staunton, commenced the publication of an industrial journal known as "The Virginian," devoted to the geologic and general industrial situation of the two States. This publication was issued for six years and became a recognized authority in this country and abroad. It is needless to say that the reputation of Major Hotchkiss as an engineer and geologist gave it a standing in the highest circles as an unquestioned authority. The Manufacturers' Record is just

in receipt of five volumes, needed constantly for reference, and we understand that Major Hotchkiss has on hand a number of sets of these five volumes bound and ready for sale. They are of permanent value for reference for information about coal, iron and other matters in Virginia and West Virginia, containing, as they do, very many valuable maps, coal sections, geologic sections, etc.

It is doubtful if any daily paper in the South is doing as much for the general agricultural interests of its State as the News and Courier is doing for South Carolina. About eighteen months ago that paper commenced to give particular attention to the encouragement of diversified agriculture, offering large prizes to the farmers for the most successful hog-raising results. All over the State the farmers have become enthusiastic in trying to raise the largest amount of pork at the lowest cost, and the result is an awakened interest throughout the State in the production of food supplies, which will be of almost incalculable value to the farm interests of South Carolina. The News and Courier is constantly broadening out this work and is handling it in a way which may well call forth the heartiest commendation of everyone interested in Southern upbuilding. If every daily and weekly paper in the South would take up such matters as this, and carry them out with the same energy and activity which has marked the News and Courier's course, the farming interests of this whole section would soon be revolutionized. Here is an opportunity for Southern papers to do great good to the whole South and at but little cost to themselves.

It was reported in this city yesterday that the fires in the furnaces of the Tennessee Coal & Iron Co. and the Sloss Steel & Iron Co. had been extinguished in Alabama and Tennessee and the works shut down. The two concerns are among the largest manufacturers of pig iron in this country.

Prominent iron men of this city, when seen by a reporter of the Press, said that if the companies had closed their shops it would cause a slump in the iron market.—New York Press.

It is hard to understand how the imbecile that wrote the above, and the supposed editor who passed it, have been able to keep out of the asylum. And so, according to the New York Press, which poses as having some acquaintance with industrial interests, the "shops" of the Tennessee Coal & Iron Co. and the Sloss Steel & Iron Co. have shut down, and then, because of this decrease in the iron output, there is going to be "a slump in the iron market." Is the Press aware of the fact that these companies, and one or two others in the same vicinity, are making pig iron at a lower cost than any other furnaces in the world? Is it aware of the fact that running as many furnaces as they do, some of them are constantly out of blast, but that even during dull times one of these companies produces more iron for the open market than any other company in America?

A DEPARTMENT OF MANUFACTURES AND COMMERCE.

The Magnitude of Our Manufacturing Interests Considered
in Connection with the Suggestion for the Creation
by Congress of Such a Department.

A Letter Addressed to the Chicago Convention of the National
Association of Manufacturers.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, January 16, 1896.

To the National Association of Manufacturers:

The Manufacturers' Record desires to present to this convention, and generally to the manufacturers of the country, a few facts which grouped together may serve to emphasize the importance of asking of Congress the creation of a Department of Manufactures and Commerce, the Secretary of which shall be a member of the President's Cabinet. These facts may also add some weight to the reasons why the industrial interests of this country should receive the highest consideration by all legislative bodies and by transportation companies.

The public has so long been accustomed to hear that agriculture is the basis of all our growth and prosperity that the manufacturing interests have come to be looked upon as of secondary importance. Agriculture has justly been recognized by the establishment of the Department of Agriculture, which is devoting its entire attention to this interest, covering every phase of it from the statistical reports of acreage and probable yield to the study of methods to open new markets throughout the world for the product of our farms. On the other hand, the manufacturers of the country have received scant recognition from the National Government, and every request made of Congress by manufacturers is by the public and a large portion of the press decried as a piece of impertinence, as though this industry were of trifling value compared with other business interests.

Probably nine people out of ten are under the impression that the extent and value of the agricultural products of the United States far exceed the value of the manufactured products. Instead of this being true, the total value of manufactured products in 1890 was \$9,370,107,624; whereas the total value of all agricultural products for that year, as reported by the statistician of the United States Agricultural Department, was \$3,800,000,000.

The growth of a great country like the United States cannot readily be comprehended except by a study of the aggregate results of the progress of a stated period, say of ten or twenty years. Ten years is but a brief span in the life of a nation; but a study of the industrial history of this country during the ten years ending with 1890, as shown by the census reports, will reveal a growth and expansion of which few persons would otherwise have any conception. Any attempt to estimate the future growth of the industrial interests of the United States, or to set forth the possibilities of the coming ten years, as indicated by the wonderful advances of the last ten, would produce statistics that would probably be thought to have come from the brain of a visionary enthusiast. Without venturing any forecast, therefore, an attempt to point out the progress of the manufactures of the country in some directions in last decade will be of interest. From this may be shown what production and achievement will be reached by A. D. 1900, if the rate of progress maintained from 1880 to 1890 should continue to the end of the century, leaving to the public the privilege of judging whether our national progress will go on at a slower rate or as rapidly as in the past.

In A. D. 1880 the population of the United States was 50,100,000; in A. D. 1890, 62,500,000 people lived under the protection of the stars and stripes. The rate of increase was 24.8 per cent. During that decade we added to our population 12,500,000 people. What this means can be best understood by a comparison with the population of the leading cities of the country in 1890, which was as follows:

Cities.	Population.
New York.....	1,515,000
Chicago.....	1,099,000
Philadelphia.....	1,046,000
Brooklyn.....	806,000
St. Louis.....	451,000
Boston.....	448,000
Baltimore.....	434,000
San Francisco.....	298,000
Cincinnati.....	296,000

Cleveland.....	261,000
Buffalo.....	255,000
New Orleans.....	242,000
Washington.....	230,000
Detroit.....	205,000
Milwaukee.....	204,000
Newark.....	181,000
Minneapolis.....	164,000
Jersey City.....	163,000
Louisville.....	161,000
Omaha.....	140,000
Rochester.....	133,000
St. Paul.....	133,000
Kansas City.....	132,000
Providence.....	132,000
Denver.....	106,000
Indianapolis.....	105,000
Total.....	9,200,000

Thus the increase in our population between 1880 and 1890, as shown by these figures, was 3,300,000 greater than the combined population of every city in the United States of more than 100,000 population.

Starting in 1890 with a population of 62,500,000 and increasing at the rate of about 25 per cent. every ten years, we will add during the present decade nearly 16,000,000 people to the total of 1890, giving us by the year 1900 a population of over 78,000,000, and ten years later, or only fifteen years from the present time, we will round out with almost 100,000,000 inhabitants in this country, or just double the population of 1880. It is necessary to remember these facts in order to give consideration to the meaning of the statistics of our industrial growth and to enable us to form some conception of what the future has in store for the manufacturing interests of the United States.

Nothing else tells the story of the marvelous progress of this country between 1880 and 1890 so well as the statistics of our manufacturing and mining interests. In the magnitude of our manufactures we now lead the world, and the annual value of the output of our factories is, as already stated, nearly three times as great as the aggregate value of all of our farm products. In 1870 the total capital invested in manufacturing in the United States was \$2,118,208,000. By 1880 this had increased to \$2,790,272,000. Between 1880 and 1890, however, the increase was phenomenal, and the census of 1890 showed a total capital of \$6,524,475,000, or, in other words, the increase in capital invested in manufacturing between 1880 and 1890 was \$1,000,000,000 more than the total manufacturing capital of the country in 1880. This increase in capital of \$3,700,000,000 is itself almost equal to the total value of the agricultural products of the country in 1890. The number of hands employed increased from 2,732,000 in 1880, whose aggregate wages in that year amounted to \$947,953,000, to 4,711,832 in 1890, with aggregate wages of \$2,282,823,000. It is a most striking fact that the wages paid to the employees in the manufacturing establishments of this country in 1890 were equal to two-thirds of the total value of the agricultural products of the country. If the details of our manufacturing progress be examined, it will be found that there has been a well-rounded growth. Every branch of industry has steadily made large gains. In cotton, in wool, in iron and timber and in all industries using these staples as raw material there has been a wonderful advance. The increase has been in the small and large industries alike. We are making more pins and tacks and building more great steamships; we are making more coarse cotton and woolen goods and producing more fine cloths and silks. Every branch of industry that comes between these extremes has grown proportionately. In 1880 the iron makers of the United States produced 3,781,000 tons of pig iron, and as that was a gain of nearly 100 per cent. over 1870 it was regarded as a rapid growth. Our pig iron producers are now turning out iron at the rate of nearly 10,000,000 tons a year, the actual increase over 1880 being almost twice as great as the total production in that year.

Keeping pace with manufacturing growth the mining interests of the country turned out \$656,000,000 worth of products in 1890 against \$369,000,000 ten years before. This gain touched every branch of mining. The production of coal rose during that decade from 63,800,000 tons, valued at \$95,600,000, to 140,700,000 tons valued at \$176,700,000; of copper from 60,000,000 pounds worth \$11,500,000, to 265,000,000 pounds worth \$30,800,000; of petroleum from 26,200,000 barrels worth \$24,000,000, to 45,000,000 barrels worth \$35,000,000.

In that decade a new industry of vast magnitude was created. Twelve years ago electricity as applied to street cars, for power purposes of all kinds and for house and street illumination was a new thing. The electrical age was practically just commencing, and the aggregate capital invested outside of telegraphy was small. Now almost every town of any size has its electric railroad; streets everywhere are being lighted by electricity, and electricity furnishes power for factories, to run elevators and for many other purposes. Still we have scarcely seen the beginning of electrical development. Already, however, the capital invested in all branches of this industry—and nearly all invested since 1880—is estimated at \$1,000,000,000.

The facts which have been presented, covering the industrial progress between 1880 and 1890, are simply intended to give some conception of the actual progress of the industrial interests of the country. The magnitude of this advancement can only be realized when we sum up in this way what has already been accomplished. To attempt to go into the details of this progress, to show the growth of every branch of industry, to point out the special enterprises of

great magnitude that have been undertaken, to outline even a few facts as to the wonderful growth of ship-building and other industries would be unnecessary in such a paper as this.

The United States is now the leading manufacturing country of the world. We have far outstripped all other nations in the magnitude of our industrial operations. It is almost incomprehensible that in ten years the increase in capital invested in manufactures should exceed by \$1,000,000,000 the total capital so invested only ten years before. That this capital rose from \$2,700,000,000 in 1880 to \$6,500,000,000 in 1890, and is now ten times as great as the aggregate capital of all the national banks of the country, is one of the wonders of the business world unequalled in history.

Notwithstanding the great decline in prices the aggregate value of the manufactured products of the country in 1890 was over 70 per cent. greater than in 1880. It is hardly to be expected that the present decade should show an equal rate of growth, although a study of the whole country exhibits a very marvelous advance in all directions. But even should the aggregate gain be only as great during this decade as in the last, or \$4,000,000,000, the year 1900 would give us a total value of manufactured products of over \$13,000,000,000. Possibly this is more than we shall reach, but the same percentage of gain as from 1880 to 1890 would give over \$16,000,000,000. The same rate of growth in mining interests in this decade as in the last would make our mineral output in A. D. 1900 worth \$1,200,000,000, while a smaller percentage of gain only equaling in value the total increase in 1890 over 1880 would bring the figures to over \$950,000,000. If our coal miners add to the output of 1890 as many tons as they added to that of 1880, ignoring in this the percentage of growth, 217,000,000 tons will be the coal production of 1900. No other country in the world ever advanced in population and wealth and manufactures and mining as the United States has been doing for fifteen years. The progress of the past shows no signs of halting. In fact, the development of our foreign and domestic trade and commerce and of our industrial interests is steadily broadening, and we are now preparing to make the world the market for our manufactured products. We have reached a point in our history where, as a nation, we cannot only care for our own rapidly expanding consumptive requirements, but where we can expect to gain a fair share of the world's trade.

Contrast our position and condition with that of Europe. With natural resources surpassing those of all Europe; with wealth-creating possibilities in soil, minerals, timber and climate unequalled by Europe and practically without limit to their profitable utilization; with a homogeneous population of 70,000,000 people unvexed by the arbitrary regulations of half a dozen different governments and different laws and different languages and free from the drain of standing armies—the United States justly commands the wonder and admiration of the world.

Great Britain is no longer the manufacturing centre of the world, for we have taken the foremost position in that line. Its vast iron and steel business is yearly increasing in cost of production, while ours is decreasing, and it cannot meet the world's growing demand for iron because it cannot materially increase its output. It makes less pig iron now than it did ten years ago. Much of its ore it imports from distant countries. Its cotton is all imported. It spends about \$750,000,000 a year for foreign foodstuffs. On the continent every nation is burdened with debt, and measured by their natural resources and advantages for continued growth, as against their debts and the many disadvantages under which they labor, the outlook is not cheering for the future. In all of them the cost of production and of living must increase. In the United States we have scarcely laid the foundation for our future greatness. In natural resources we are richer than all Europe, and we have barely scratched the ground in the development of our mineral wealth, while our agricultural growth cannot be limited. These facts may enable us to understand something of the amazing progress of this country, and thus seeing what we have done speculate in a general way on what will be accomplished by the end of the present century. We have a country of boundless natural resources, the greater part of which is comparatively thinly settled. There is unlimited room for expansion. New railroads can be built in many sections and find profitable business awaiting them; new mineral districts as rich as the best now being developed invite capital and energy. Irrigation is making fertile great areas of Western land that before was worthless. In the Northwest and on the Pacific coast there is a marvelous advancement. The South alone has sufficient area and natural advantages to support a larger population than that of the whole country at present, and the development of that section will furnish a profitable opening for the surplus money and energy of the East and West.

We can form some idea of the industrial possibilities of the South and the reasons why the advancement of that section will inure to the enrichment of the nation when it is remembered that nature has concentrated into this section all of the raw materials—coal, iron, timber, cotton—which furnish the foundation for most of the world's manufacturing interests. Producing nearly three-fourths of the commercial cotton crop of the world, as this country now does, it has less than one-fifth of the cotton spindles in operation, New England and the South combined having but 17,000,000 spindles out of a total of 86,000,000 in the world. While Great Britain is annually mining nearly 200,000,000 tons of coal, its entire

coal area is one-third less than the coal area of the one State of West Virginia, Great Britain having but 12,000 square miles of coal, while West Virginia has 17,000 square miles. The great coal territory of the Appalachian region, stretching from northern West Virginia to northern Alabama, has been estimated to contain forty times as much coal as Great Britain had before a single mine was ever opened in that country. One half of all the standing timber in America is in this Southern region. This section, so wonderfully blessed by nature, could, without overcrowding, be made to turn out a greater annual product of manufactures than the entire country now yields. The limit for profitable expansion is beyond the power of the human mind to grasp, and what is true of the South is true of a large part of our country.

We have reached a period in the history of the United States and in the progress of manufacturing growth when expansion is necessary, and when we must begin to seek wider fields for the extension of our trade. Because of these conditions it would seem to be desirable that the manufacturing interests of the United States should at least receive from Congress the same recognition which was years ago granted to agriculture, namely, the creation of a Department of Manufactures and Commerce. Such a department could be made of incalculable value not only to the industrial interests, but to the entire business affairs of the country. This department, in connection with the State Department, or separate from it, should be in close touch with the consular service of the country, and every United States consul should be in effect an active agent for the study of ways and means to extend in foreign countries the market for American products. In opening new markets for the products of our factories, and in aiding in the development of our mercantile marine interests, and thus hand in hand building up industrial and commercial affairs, this work would be incalculably valuable.

The growth of our commercial relations with South and Central America and the West Indies brings into action new forces that tend to the upbuilding of this country. The completion of the Nicaraguan canal will mark the beginning of the most active era in our commercial and industrial history, open to us the trade of the East with its 1,000,000,000 inhabitants and revolutionize the commerce of the world in our favor. History affords nothing with which to compare our marvelous advancement, and yet as amazing as has been the progress of the last ten years, the coming ten years will show a still greater advance.

Because of these facts the Manufacturers' Record submits these statistics and the suggestions contained herein to the consideration of this convention and of the manufacturers of the country at large. I am,

Very respectfully,

RICHARD H. EDMONDS,

Editor and General Manager.

PIG-IRON PRODUCTION IN 1895.

The Largest Output on Record.

From advance proofs of the annual report of Mr. Jas. M. Swank, of the American Iron and Steel Association, the Manufacturers' Record gathers the following facts:

"The total production of pig iron in 1895 was the largest in our iron-making history, amounting to 9,446,308 gross tons, against 6,657,388 tons in 1894. 7,124,502 tons in 1893, 9,137,000 tons in 1892, 8,279,870 tons in 1891 and 9,202,703 tons in 1890. The production in 1895 was 2,788,920 tons, or nearly 42 per cent., more than in 1894, and 243,605 tons more than in 1890, when our largest previous production was attained. The production of pig iron by half-years during the last four years has been as follows, in gross tons:

Periods.	1892.	1893.	1894.	1895.
First half...	4,709,683	4,562,918	2,717,983	4,087,558
Second half...	4,387,317	2,561,584	3,939,405	5,358,750
Total....	9,157,000	7,124,502	6,657,388	9,446,308

"The increase in the production of pig iron in the second half of 1895 over the first half was also very evenly distributed, nearly every State which produces pig iron sharing in the increase and most of them in fair proportion to their record in the first half. The most notable increases were in Illinois, Pennsylvania, Ohio, Wisconsin, Kentucky, Alabama, Virginia, West Virginia and Tennessee.

"The production of Bessemer pig iron in 1895 was 5,623,695 tons, against 3,808,567 tons in 1894, an increase of

1,815,128 tons. The great increase in the total production of pig iron in 1895 over 1894 was largely caused by the extraordinary demand for Bessemer pig iron, which demand was in turn chiefly caused by the extraordinary demand for structural steel.

"The number of furnaces which were in blast on June 30, 1893, immediately after the panic of that year, was 226; by December 31, 1893, the number in blast had fallen to 137; on June 30, 1894, there were only 108 in blast; on December 31, 1894, the number in blast had increased to 185; on June 30, 1895, there were 186 furnaces in blast, and on December 31, 1895, there were 242 in blast and 226 out of blast. There is a smaller number of furnaces in blast in the present month of January than were in blast on December 31, 1895, including a number of furnaces in the Shenango valley, which have been banked since the afternoon of December 31. On January 10 there were only seven furnaces in blast in the Shenango valley out of a total of twenty-one furnaces, including five alternate stacks.

"The stocks of pig iron which were unsold in the hands of manufacturers or their agents on December 31, 1893, and which were not intended for their own consumption, amounted to 662,068 gross tons; on June 30, 1894, they had fallen to 517,036 tons; on December 31, 1894, they had risen to 597,688 tons; on June 30, 1895, they had fallen to 439,290 tons, and on December 31, 1895, they amounted to 444,332 tons, a very slight increase over the unsold stocks on June 30, 1895. As frequently explained, the statistics of unsold stocks of pig iron do not include pig iron sold and not removed from the furnace bank, nor pig iron manufactured by rolling-mill proprietors for their own use.

"Although the aggregate quantity of unsold pig iron on December 31, 1895, was virtually the same as on June 30, 1895, there have been some notable changes in the distribution of unsold stocks. There has been a decrease in charcoal stocks from 200,687 tons to 135,033 tons, Alabama and Michigan sharing largely in the decrease. On December 31, 1894, the charcoal stocks amounted to 250,183 tons. They are now much smaller than they have been for a number of years. There has been an increase in bituminous stocks from 129,596 tons on June 30, 1895, to 193,363 tons on December 31, 1895, chiefly in Alabama and in the Shenango and Mahoning valleys. The small quantity of all unsold stocks at the close of 1895 is remarkable. It was only 4.7 per cent. of the year's total production, and represents about fifteen days' production of the active furnaces on December 31.

"In addition to the stocks of pig iron above noted as unsold on December 31, 1895, there should be added 61,800 tons in the yards of the American Pig Iron Storage Warrant Co. which had passed out of the hands of the makers, making 506,132 gross tons which may be said to have been then on the market, against 520,590 tons which were similarly held on June 30, 1895. The total quantity of stocks in warrant yards on December 31, 1895, was 106,200 tons.

Production of All Kinds of Pig Iron.

TOTAL PRODUCTION OF PIG IRON.					
	Production.				
	Gross tons of 2240 lbs.				
	In blast.	1st half	2d half	Total	
June	Dec.	1st half	2d half	Total	
States.	30,	45,	31,	45,	1895.
	1892.	1893.	1894.	1895.	1895.
Mass.....	1	1	2,194	2,516	4,710
Conn.....	1	1	2,438	3,177	5,615
N. York. . .	3	6	88,389	98,383	181,702
N. J.	4	4	28,112	37,390	55,502
Penn.....	80	103	2,087,871	2,618,782	4,701,163
Md.....	1	1	10,476	10,916	21,392
Va.....	10	17	142,580	204,005	346,589
N. C.....	1	1	323	323	646
Georgia. .	2	2	11,535	13,939	31,034
Ala.....	20	22	390,553	464,114	854,697
Texas.....	1	1	2,702	2,780	4,682
W. Va.....	2	3	62,567	79,401	141,968
Kv.....	3	4	49,285	44,495	63,780
Tenn.....	7	8	114,619	138,960	248,129
Ohio.....	33	40	632,571	891,166	1,463,789
Illinois.. .	1	15	376,401	627,636	1,006,091
Mich.....	3	6	45,808	45,254	91,222
Wis.....	3	5	53,750	94,650	148,400
Missouri..	1	1	2,297	25,251	27,518
Colo.....	1	1	25,016	33,492	58,508

Tot'l '95.	186	242	4,087,558	5,358,750	9,446,308
Tot'l '94.	108	185	2,717,983	3,939,405	6,657,388

PRODUCTION OF CHARCOAL PIG IRON.					
Mass....	1	1	2,194	2,516	4,710
Conn....	1	1	2,438	3,177	5,615
N. York.	1	1	2,700	2,520	5,220
Penn....	1	3	1,803	2,671	4,474
Georgia.	1	1	6,453	6,912	13,365
Ala....	2	2	2,700	16,056	18,816
Texas....	1	1	2,502	2,180	4,682
Tenn....	2	2	9,910	9,333	19,243
Ohio....	2	4	3,644	6,813	10,457
Mich....	3	6	45,898	45,354	91,222
Wis....	1	1	21,149	24,808	45,957
Missouri	....	....	1,580	.....	1,580

Tot'l '95.	16	23	103,001	122,340	225,341
Tot'l '94.	22	24	102,697	119,725	222,422

States.	1892.	1893.	1894.	1895.
	Gross tons of 2240 lbs.			
Mass.....	1	1	2,194	2,516
Conn.....	1	1	2,438	3,177
N. York...	1	1	2,700	2,520
Penn.....	1	3	1,803	2,671
Georgia....	1	1	6,453	6,912
Ala.....	2	2	2,700	16,056
Texas.....	1	1	2,502	2,180
W. Va.....	2	2	9,910	9,333
Ky.....	2	4	3,644	6,813
Tenn.....	3	6	45,868	45,354
Ohio.....	3	6	45,868	45,354
Illinois....	1	1	21,149	24,808
Mich.....	1	1	1,580	1,580
Wis.....	16	23	103,001	122,340
Missouri...	22	24	102,697	119,725
Colo.....	1	1	.....	.....
Tot'l '95.	138	163	3,497,078	4,452,990
Tot'l '94.	55	127	2,203,239	3,316,985

N. York.	1	2	58,217	54,674	112,891
Penn....	52	51	1,653,663	1,891,220	3,544,883
Md.....		1		10,916	10,916

Va	10	17	142,580	204,009	346,589
N. C.	....	1	....	323	323
Georgia	1	1	5,082	12,587	17,669

Georgia.....	12	20	387,793	448,058	835,851
Ala.....	2	3	62,567	79,401	141,968
W. Va....	2	4	19,285	44,495	63,780
Ky.....					

Tenn....	5	6	104,259	124,627	228,886
Ohio....	31	36	628,927	824,405	1,453,332
Illinois	11	15	376,401	629,690	1,006,091

THE TIDE TURNED SOUTHWARD.

Grain Shipments from the West Diverted to Southern Ports.

The remarkable increase in grain exports through Southern ports is attracting much attention in railroad and shipping circles. This movement is simply verifying predictions made from time to time in the Manufacturers' Record that the Southern seaports, as the natural exporting points for the West, would sooner or later handle the bulk of Western freight intended for export.

In an exhaustive article on the changes which are taking place in the transportation routes, the Kansas City Times says:

"Ever since the beginning of railroad building, the lines of greatest traffic have been east and west. The immense export trade in agricultural products from the trans-Mississippi districts has gone through Chicago and St. Louis to the seaboard. In return, the East sent the West its manufactured articles of all descriptions, from steel rails to Christmas toys. North and south roads were regarded with disfavor in their bearing upon export commerce. The condition of the harbors of the gulf entered seriously into this transportation problem. Save New Orleans, there has been no harbor of magnitude, and until comparatively recently the Mississippi was an almost insuperable barrier to railway building from the centre of the Western agricultural districts to the gulf. With the upbuilding of lesser gulf ports in Texas, however, the people of these cities have realized the immense advantages which would accrue to them were their harbors and their channels deepened and put in fit condition to admit the largest ocean steamer—in short, to fulfill the requirements of first-class harbors.

"They were right; and even now there is felt the beginning of a new era in Western transportation matters, which in the end will result in the creation of a great Western and Southwestern empire, a rival in every respect of the wealth and influence of the East. The recent agitation by interested Chicago men of the difference in rates between trans-Mississippi points and New York and gulf ports shows that the keen business men of Chicago are fully alive to the situation, and propose, so far as is in their power, to artificially prevent the approaching diversion of Western traffic from its present lines.

"The result of deep water on the gulf on the agricultural export trade of the West is simply to divert it from east and west lines of transportation to north and south lines. It means that the South has entered the field as an active competitor for the handling of Western exports. It means lower freight rates and more of a margin of profit for the Western farmer. It means that the people of Texas will be put in a position where they may begin to establish manufactories on equal terms with the East, where the raw materials have to be imported. It gives gulf ports a great advantage in imports from South America as return cargoes for vessels bearing food products, breadstuffs, etc. It will bring to the merchants of the Western section of the country their imports from Europe at cheaper transportation rates than they have had to pay on the old lines from Atlantic ports to the West. A water haul from Europe to gulf ports, thence to points in Nebraska north by rail is much cheaper than the water route from Europe to Atlantic ports and thence half way cross the country by rail.

"The effect of this diversion of the export business of the country will be tremendous. New York has dominated financially the entire country by virtue of its position as the chief port of the

country. Every ton of export traffic that leaves the country, every ton of imports that enters the country by way of the gulf, strikes a blow at New York's supremacy in trade and finance. The creation of great importing and exporting houses on the gulf will bring about a competition for Western business which New York cannot meet with the odds against it, as they surely must be. Chicago is likewise affected; the diversion of the export grain trade strikes at the root of its prosperity. Chicago, however, will not be so seriously affected as New York, because Chicago's central position as a distributing point for the whole country cannot be assailed for many years.

"While we are on the subject of the ultimate decadence of Eastern financial influence in the West, it may not be out of place to point to the importance of these deep-water gulf ports as a means of assistance to the growing cotton manufacturing industries in the South, and the indirect influence which they will exert in wresting the business of the West from the East. Traffic cannot be made to increase unless there is a double flow, so to speak. Railroads cannot afford to haul empty cars. If there is a great outflow of export agricultural products from this section of the country via gulf ports, there should be a corresponding inflow of other traffic to secure the most advantageous rates. Cotton manufacturers will furnish a return freight that would fulfill these conditions to a large degree, and the sooner that the people of Texas begin manufacturing the better it will be for the development of this business."

Some figures which show how rapidly the grain trade of the West is being diverted to gulf ports are given in a recent bulletin issued by the government. The following are the figures for December, 1895, and for the year of the exports of corn:

	Dec., 1895. Bushels.	Year 1895. Bushels.
Baltimore.....	2,393,168	9,645,758
Boston.....	502,647	3,320,823
New York.....	1,735,694	19,636,817
Philadelphia.....	683,000	3,307,413
New Orleans.....	3,173,111	8,736,766
Other ports.....	1,711,603	11,189,150
Total.....	9,907,570	57,924,886

It will be seen that New Orleans has steadily advanced as a corn-exporting port, and during the past month of December led all the American cities, and handled one-third of all the corn shipped out of the country.

Taken in carload lots, New Orleans and Galveston have been the destination of 4500 carloads out of 7000 sent out of Kansas and Nebraska since December 1, 1895. In other words, these cities secured two-thirds of the corn sent out of these States for export purposes within the time mentioned.

If this state of affairs continues, there will be little need to dwell upon the advantages of gulf cities as shipping points, or to advocate their advantages in South and West Grain Congresses.

Development in Atlanta.

The Atlanta Journal recently canvassed the architects and real estate firms of that city to obtain their views on the prospects of real estate and building in 1896. The replies received were of a very encouraging character, and the majority agreed that the outlook was excellent. Portions of some of the statements, all made by different people, were as follows:

"The real estate outlook is very much better now than at the same time last year. I have had occasion to try to buy several pieces of property for special purposes, and find owners not anxious to sell. The exposition advertised Atlanta, but the big things are the numerous in-

dustries that are being started and enlarged. I can enumerate enough to build a city of 20,000 or 25,000 population."

"The bulk of our sales for the past twelve months have been to homeseekers, and in a great many instances these parties have just come to Atlanta with the view of locating permanently, going into various classes of business and making permanent investments."

"I now regard the condition of the real estate market in Atlanta as very encouraging, and now that the exposition, with all its attractions and excitements, has passed away, the feeling in real estate circles is much better, and instead of a collapse on account of the closing of the exposition, there is already much activity in the market, with an increase of sales over that of this period of last year, with values slightly improved."

"The demand for leases and to rent is better than I ever knew it to be at this season of the year. Architects are busy, and announcements have been made that grand business blocks are to be built to meet requirements of growing trade, and this means work for our mechanics. Values have held up remarkably as compared to other cities, and good property is always in demand at full prices. There is much idle money that we know of which will seek investment here. We are in active correspondence with parties looking to big investments, which will add largely to the welfare of the city."

"With the exposition, our population greatly increased during 1895; everyone made money, and I heard not a single complaint. A certain meat firm in the city claims to have made over \$12,000, while a temporary hotel erected within ninety days cleared \$35,000. The eyes of the whole world have been centred upon Atlanta, our great metropolis and railroad centre, and as a natural consequence we will have an influx of population numbering some 12,000 or 14,000 strong."

"The prospects were never brighter with us. We are now having more inquiries for plans, the better class of residences and business buildings by 25 per cent. than at any time in the past five years at this period of the year."

"We now have negotiations pending for one tract of 88,000 acres of pine land, for another of 24,000 acres, and for 16,000 acres of farm lands, on which colonies are to be settled. One memorandum of addresses of parties inquiring for lands, farms and city property during the past four months shows 400 inquiries from parties all over the United States and Canada, mainly from the Northwestern, New England and Middle Atlantic States, all seeking information about our soil, climate, fruit and other resources."

"I have several fine improvements in view, and am at present preparing plans for several improvements. A better class of buildings will go up this year than last, and I consider the outlook much better than a year ago, especially for permanent improvements."

"For more than a year our sales have been, not to speculators, but home-builders and permanent investors. Prices at private sales have shown little if any depreciation. In some instances they have been up to and above the highest figures ever realized in the city."

"We consider the outlook for the coming season in the real estate market as very satisfactory, indeed. Every indication points that way, and we believe that we are on the eve of the best business in our line that we have had in four years."

The real estate dealers and architects are good barometers of the condition of a city, and as will be seen by the extracts quoted, the Atlanta experts place that city in an excellent condition, and give

figures to justify their statements. Another proof of the progress made is given by the last edition of the Atlanta City Directory, just issued from the press. According to this, the present population is 114,340, a gain of 5000 during 1895.

Southern Products on Wheels.

The Dallas Commercial Club and the Houston Commercial League decided to send a carload of agricultural products through the South last year, including the Atlanta Exposition on the route. The car was filled with specimens of grain, fruit and vegetables, and contained a liberal quantity of circulars, pamphlets and other advertising matter. The following is an extract of the report of the agent in charge:

"At New Orleans we stopped over a day as guests of the Sugar and Rice Exchange. It was there that fully 6000 citizens passed through the cars, the daily papers devoting column after column to a description of our exhibit. At Montgomery, Ala., we remained one day on exhibition, receiving at least 2000 visitors. At every station we distributed attractive printed matter. Oftentimes persons were seen running from farmhouses to secure a package of the literature our men would throw out to them. While en route through Louisiana, Alabama, Mississippi and Georgia we gave out 150,000 pieces of printed matter, while our cars were laden with flowers contributed by friends of Texas all along the line. We reached the exposition and remained there nearly two months. We stood day in and day out talking Texas, Dallas, Houston and a few towns that had assisted us. We unboxed and distributed at the exposition \$50,000 pieces of choice printed matter, most of which was furnished by the railroads entering Dallas and Houston. We have approximated the visitors who passed through the Texas exhibit at 500,000 people. We have had fully \$5000 worth of free advertising in the leading papers of the country—the New York World, Chicago Times-Herald, St. Louis Globe-Democrat, Manufacturers' Record, Atlanta Constitution, New Orleans and other papers. No exhibit (except ours) was made for less than \$10,000, many of them costing \$20,000 and \$30,000, while the Texas exhibit did not cost over \$1500."

While the Manufacturers' Record questions the idea of Texas or any Southern State endeavoring to secure immigration from the South, this mode of attracting attention in the West and North commends itself in many ways. The trainload of provisions sent the Kansas and Nebraska sufferers in January, 1895, at the suggestion of the Manufacturers' Record was instrumental in establishing the Fitzgerald colony, which has brought nearly 6000 people to Georgia already. It was an act of charity, but it was also a display of the South's abundant resources, which was both attractive and novel to the people whom it benefitted.

Suppose each Southern State should fit out a car with specimens of its grain, woods, minerals, vegetables, fruits, etc., and form an exhibit train. Send it into the West and North. Let it be divided into three or four sections, each section to stop at one city or village daily. A tour of three months in this manner would be the means of attracting many thousands of homeseekers to the South. These exhibits can be arranged at little expense save for the transportation and services of agents and advertising distributors, and they are very effective. In such a way the whole country could be thoroughly canvassed in three or four years, and the Northern people given an ocular demonstration of the South's natural resources.

Mexican Mining Operations Creating a Market for American Machinery.

[Special Cor. Manufacturers' Record.]

Monterey, N. L., Mexico, Nov. 30.

The mineral resources of the Monterey district are to all appearances inexhaustible. Since 1889 a large number of mines have been discovered and many of them are being worked. Much of the machinery comes from the United States, thus making the mining development here of interest to your manufacturers.

Twenty years ago, when your correspondent first visited this city, there was not a single mine worked in the district, and there were not a half-dozen known at that time, although it was the general opinion that silver-lead ore existed in all the mountains. It was not until after the Mexican National Railroad reached this city in September, 1882, that any efforts were made to work the mines that were known to exist at that time, or to discover new ones. After the opening of the road, miners and prospectors poured into the country. They came from Colorado, California, New Mexico and all the territories, and, in fact, from the North, East and West. They procured guides and explored the mountains within 100 miles in every direction from the city. They discovered and located a number of silver, lead and copper mines. But under the mining laws of Mexico at that time they had to work the mines so many months and get out so many tons of ore each year. If they did not they forfeited their title, and the next man that came along could denounce them and take possession; but they were required to work them the same as the original owners. That law has been repealed. Now they pay an annual tax, and it is optional with them whether they work them or not.

But as there were not any smelters to treat the ore any nearer than Kansas City, Mo., the mines were not developed. It was not until they broke ground in January, 1889, for the building of the Monterey & Mexican Gulf Railroad that any efforts were made to develop the mines or discover new ones. It was in that year that Joseph A. Robertson, the late general manager of the Gulf road, inaugurated the building of the first, second and third smelters. The building of these smelters caused the miners and prospectors to come here again. The abandoned mines were taken possession of and worked, and new ones discovered and are now being developed.

The following mines are situated in the Sierra Madre, twelve miles south of Monterey:

New York, silver and lead; San Filippi, silver and lead; San Salvador, silver and lead; San Juan, silver and lead; San Marcos, silver and lead; Napoleon, silver and lead; Denver, silver and lead; San Jose, silver and lead; Francisco, silver and lead; Olivia, silver and lead; El Carmen, silver and lead; La Cruz, silver and lead; La Reinera, silver and lead; Irene, silver and lead; Mobile, silver and lead; Alto Mira, silver and lead, and Jurez, silver and lead.

All these are new mines and are owned by Americans in this city and citizens of New Jersey and New York. These mines all carry iron, which gives them additional value for fluxing purposes.

The San Pedro mine, which is in the same district, was worked by the Spaniards over 100 years ago. They had a small smelter at the foot of the mountains, where they smelted the ore, but on account of revolutions that prevailed at that time they closed down the mine and abandoned the works. Eight years ago the mine passed into the hands of Senor Juquin Maiz, a prominent merchant in this city. As soon as they commenced

to erect the first smelter, he put miners to work to get out ore. He put in a cable line to haul the ore down to where the ox-carts could reach it. Soon after the Monterey Mineral Belt Railroad was built up to the foot of the mountain. He then put in an electric-light plant at the end of the track to light the mine and operate the hoists to take the ore out and ventilate the mine. The capacity of the plant is 150 16-candle-power incandescent lights and cost \$75,000. He is now putting in another cable to haul the ore from the first cable to the railroad track. This cable is 7235 feet long. Altitude of mine above the power-house 1943 feet, and above sea-level 2313 feet.

The output from the San Pedro mine is 2000 tons of ore per month, but when he gets the new cable in operation he will double that amount. He is working at present about 500 miners. The population of the camp is 1500. He has erected a church and a schoolhouse in that mountain town for them.

The San Pablo mine is situated due east of the San Pedro and at about the same altitude. It is owned by Messrs. A. E. Gonzales & Co., of this city, A. E. Gonzales, president. They haul the ore down to the railroad on a cable line. They employ 420 miners. The output for October was 2500 tons, which they sold to the smelters for \$52,000; cost of mining, \$12,000—net profit, \$40,000. Senor J. Gonzales Triniño and associate own in the same vicinity the San Isabel, Independencia and El Roble silver-lead mines. They have recently commenced to develop them.

The Zaragoza mine is in the same vicinity. This is a new mine and is owned by Messrs. Piazzini, Ferrera and Barrelli, of this city. They are now putting in a cable line from the end of the railroad track to the mine. Length of cable, 2000 feet; cost, \$5000; elevation of mine above the track, 1900 feet. When the cable is finished the net output of this mine will be 2000 tons of ore per month. Capt. S. B. Burton, architect, of this city, is superintendent of the erection of the cables and the electric-light plants.

The San Antonio mine is situated in the Sierra la Mertra, twelve miles west of the city. This mine is leased by the Guggenheims, of Monterey. They get out about 300 tons of silver-lead ore per month. They haul the ore down on a cable to the Mexican National Railroad. This cable is two miles and a half long.

The following mines are situated in that mountain:

Loss Robles, silver and lead; Aztec, silver and lead; Voladora, silver and lead; San Antonio North, silver, lead and copper; El Bronco, silver and lead; La Restora, silver and lead; Americano, silver and lead; San Jose de la Silla, silver and lead; El Carmen, silver and lead; Miguel Escobedo, silver and lead; La Trinidad, silver and lead; El Durazno, silver and lead, and Ascension, silver, lead and iron.

Santa Catarina mines are situated south of that city and about twelve miles southwest of Monterey. They are: Tepeyac, silver and lead; Santa Justiana, silver and lead; Guadalupe, silver and lead, and Buena Vista, silver and lead. The last mine is owned by Mr. Rudolfo Dresel, of this city. He is now developing it and is getting out twenty tons of rich ore per month.

The Garcia mines, twenty-five miles northwest of this city, on the line of the Gulf Railway, are the San Juan Batista, silver and lead; La Union, silver and lead, and the La Fortuna, silver and lead.

The following mines are situated in the Rosario mountain in vicinity of Salinas, twenty-five miles north from Monterey, on the line of the Mexican National Railroad:

The Rosario, silver and lead; La Union, silver and lead, and the Don Julio, silver and lead.

In addition to the above, there are a large number of silver-lead mines in the districts that have been registered, but not worked.

E. L.

Large Power Plant in South Carolina.

Some months ago the Manufacturers' Record stated that the Columbia Canal Co., Columbia, S. C., contemplated building a power plant to furnish electric power at a low cost. A dispatch to the Manufacturers' Record announces that this work will be pushed at once, and that a plant of between 9000 and 10,000 horsepower, to cost about \$250,000, will be constructed. The Columbia Canal Co. is controlled by New England men, Mr. Aretas Blood, of Manchester, N. H., being one of the largest stockholders. The stockholders in this canal company control the Columbia Mill Co., the fine cotton-duck mill now being operated by electric power generated by this canal. The development of this enterprise by the building of such a central power station will enable Columbia factories to secure power at a minimum cost.

Industrial Notes from Carolina

[Special Cor. Manufacturers' Record.]

Charlotte, N. C., January 22.

Charlotte is to have a new mill—the tenth hummer. The stock necessary to make the mill a certainty was subscribed yesterday. Mr. H. S. Chadwick, of the Charlotte Machine Works, is at the head of the enterprise. The mill will have 5000 spindles, and will turn out fine hosiery yarns. Work on the building will be begun by March 1, and the mill will be in operation by the end of the year. Mr. Chadwick is to be president of the mill, and Mr. W. S. Mallory, treasurer.

A 1000-light electric-light plant has been put in the mill at Laurens, S. C.

The Carolina Sulphuric Acid Manufacturing Co., Blacksburg, S. C., will start up its acid chambers this week. The company is now putting up a stamp mill and chlorination works, in which sulphuret gold ores will be reduced. It is the intention to buy ore as well as mine it for the reduction works. The new stamp and chlorination works will be ready to operate in about two months. This will make a central reduction works, to which miners may send ore, either free milling or sulphuret ores.

Mr. A. B. Saunders, of Mooresville, N. C., has been appointed by Mr. D. A. Tompkins superintendent of the Statesville (N. C.) Cotton Mills.

Mr. E. W. Thompson is superintendent of construction of the Camden Cotton Mills, Camden, S. C. This is a new factory, which will be started up in about two months from the present time. The Camden Mills will make 40-inch wide print cloth.

The Columbia Land & Mining Co. is the name of a new company recently organized, which it is expected will purchase the property of the Grand Rivers Co. at Grand Rivers, Ky. It will be remembered that several years ago New England people undertook to carry out a great town-building and iron-making enterprise at Grand Rivers. The entire property, including the furnaces, will, it is understood, be taken over by this new company.

The Norfolk Board of Trade has elected the following officers: C. S. Sherwood, president; E. C. Brooks, first vice-president; Dr. V. G. Culpepper, second vice-president; Franklin D. Gill, third vice-president, and Hermann C. Niemeyer, secretary and treasurer.

What a Newspaper May Do.

Editor Manufacturers' Record:

I have yet to discover a weekly newspaper published in a town of from 15,000 to 30,000 people which anywhere nearly takes advantage of its opportunities. This is a matter in which the people should be interested as much as in their public buildings or parks. A good newspaper is a better advertisement of a town than any other institution in it. Though this will be generally admitted, citizens are not always sufficiently alive to the possibilities of a good newspaper as a mirror of local life that they are willing to establish or encourage one for the good of the community. This is especially true in view of the fact that the editor whose character fits him to take the exalted place of a public teacher, and whose ability as a practical newspaper maker enables him to produce a paper that is a credit to the best interests of the town, is not so much in evidence as to become a familiar object.

I would like to give you my idea as to what a weekly newspaper may do for a small city. In the first place, the industries of the place could be described and illustrated from time to time, not in the regulation "write-up" style, but in a manner to make the articles interesting and instructive to the whole population. A single descriptive article of this kind need not comprehend a whole industry, but a single phase or department might be taken up at a time, the preparation of materials and disposition of products, as well as processes of manufacture, affording matter for most interesting "stories."

The industrial, political and social history of a town of 30,000 people affords materials for many attractive articles.

The juvenile life of a small city is entirely neglected by newspapers, so far as I have observed. A weekly paper might be made a teacher to half the boys and girls in the town. Their amusements and their school life are very important to them as well as to their parents, and these two classes are the most important elements of the population.

Then there are the women! If there are no women's clubs, the paper should make it its business to encourage their formation. Their proceedings might be made into good reading for the women particularly and to a considerable extent for their husbands and sweethearts as well.

In every town of the size I write about there are concerts of considerable artistic merit, but I venture to say that not 5 per cent. of the people who read the programme of an affair of this kind know anything concerning the life and character of the masters who wrote the music that is rendered. And yet I think it is the business of the ideal weekly newspaper to give this information and thus add to the educational value of the concert.

The churches do not figure as largely in the ordinary newspaper as the prominence of their activities in the lives of the people demands. I would not have my ideal country weekly a religious paper by any means, but I would have the religious life of the place considered in a respectful manner, and fully, and in such a way as to be attractive reading even by non-churchgoers.

The town government always furnishes material for the spiciest kind of articles and paragraphs. But this work, if done rightly, must be done by one who has an exalted idea of the true mission of a newspaper. An educated man of sterling character, good sense and real newspaper ability can almost insure purity in municipal government. The need of public improvements he can point out, as well as injudicious expenditure for those already

under way. Such an editor must be the peer of any politician in the place, so far as the possession of information concerning the city and county governments is concerned, and the usages and expenditures under similar circumstances elsewhere.

A newspaper, if it does its duty, knits the people together by showing them what they in common have to be proud of. No community is so dull that life in it may not be made enjoyable, and none is so pleasant that improvement is impossible. The local paper may secure a weekly half-holiday and show the young people how best to use it; indicate the best employment of the winter evenings; point out the best reading and promote reading circles; specify how the public parks may be used and beautified; encourage the people to care for their own poor until the former can make it possible for the latter to care for themselves; educate the public sentiment to an intolerance of law-breaking and the desirability of the people informing themselves as to the provisions of the laws proposed to be passed.

In short, the weekly newspaper, in the hands of the right man, may be a power for good in every direction in the small city.

C. W. WILCOX.

Chicago, December 26, 1895.

Studying the South.

"She is one woman who always talks interestingly, and from whom a newspaper man can always get a good story."

This expression came from Mr. Bart Arkell, editor of Leslie's Weekly and one of the owners of Judge. He was speaking of a woman whose name is familiar to all newspaper, magazine and book readers the world over—Mrs. French Sheldon, African explorer, litterateur and cosmopolitan. Mrs. Sheldon has been in Atlanta several times within the past year. Yesterday she came in from a trip through Alabama. She is in the South studying the industrial situation for some English newspapers and as the representative of some London capitalists, who desire to know something of the possibilities and the social conditions of this section. Englishmen always send over a representative to report on the conditions and the possibilities of a community before investing in its railways or manufactures. It is quite a common thing for bankers and other leading business men of Atlanta to be called on by a special agent of some English syndicate and questioned about this or that enterprise, or the chances of success of a new factory in this town or a new railroad through that territory.

Mrs. Sheldon, who is at the Aragon, says that she will spend six months in the South in this work. Early yesterday morning she was out going from mill to factory, viewing the processes of making cotton cloths, the manufacture of fertilizers and the operations of two or more other industries. Everywhere she asked many questions of the managers and the operatives. She is a close observer, and is going deep into the subject. "I have discovered several things which impress me," she said to a representative of the Constitution. "I have figures here which will open the eyes of the English people on the cost of manufacturing various articles. It is my judgment that the delay in establishing industrial enterprises in the South is destined to prove a blessing. While the North and England have been experimenting with this and that mechanical appliance and the various processes, the South has been husbanding her strength. Now she is ready to avail herself of the results of the experiments which others have made. Mills can now be put up for much less money than for-

merly, and there will be less capital invested to earn interest upon. Bricks and lumber are very much cheaper here than in the North. Cotton can be laid down at the doors of the Southern mills at much smaller cost than the Northern spinners have to pay for it. In a large factory this difference in cost amounts to a good dividend. There is no question about the South manufacturing the finer grades of goods in a little while. There are some things which need to be looked after, though. The employment of child labor in the mills will have to be regulated by the legislatures. Children of ten and under ought not to be at work in the factories. Land is cheap down here, and the operatives should be encouraged to have their gardens. True, they do not have to pay much for their meat, bread and vegetables, but they could raise many things even cheaper than they can buy them. I have talked to the managers of a number of mills, and have secured the actual figures on the cost of manufacturing.

"You know there is one thing about the industrial future of the South which will impress the capitalist every time in your favor, and that is, the absence of labor troubles. You have not the walking delegate in the mills here to any extent. The tendency is to scatter new mills, and not build up great manufacturing communities, such as Lowell, in New England, or Manchester, in England. Labor is happier in the South than anywhere else in the world. In England, where I lived for twenty years, the mill operators work day after day in crowded rooms, with a dull, damp, smoky atmosphere outside. These things have a depressing effect on the people. That cannot be disputed. In France the sky is sunnier than in England, but the conditions are not so propitious as they are in the South. I really believe that this is the coming part of the globe. I have been everywhere, but in no country have I found such auspicious surroundings as are presented in the Southern States. Everything is waiting here, ready for the man of affairs to take hold and develop.

"This magnificent exposition is going to bring about great things for all the country around. Its conception and execution were an inspiration. In my travels through neighboring States I have seen the uprising of a new hope and a greater faith in the immediate future. Men are more enthusiastic about everything than they were a year or even six months ago. They tell me everywhere that in the past ninety days they have felt a new blood, as it were, coursing through their veins. Atlanta has caught the eyes of the world. Nor is it Atlanta alone, but all the country around that is being observed. Capital will seek this field because it is inviting. The prospect for returns on invested capital is brighter here than in any other field of labor which I know. The unimproved lands are bound to be in demand, for a tide of settlers is about to pour in. The country is going to fill up and real estate in the interior as well as in the towns and cities is certain to enhance in value. It is remarkable that real estate has not depreciated here in Atlanta during the past three years, for it has gone down almost everywhere else. I could name some Northern and Western towns where city property has shrunk from 10 to 50 per cent. In Atlanta and neighboring cities there is a strong tone to the real-estate market. So long as land brings a good price you may depend upon it that a community is doing well. When real estate weakens something is wrong somewhere.

"I did not know until I came down here that the South is the true America. Here the Saxon blood is purest. The North and the West are mixtures. Out on the

plantations much of the old feudal system remains. But a change is coming. With the infusion of new blood and rotation and overlapping of crops, many changes will take place. Cotton means a few months of work and cessation from work in a large measure the rest of the year. This has a bad effect on farm labor, which is most profitable when most busily engaged."

Mrs. Sheldon says that she intends to visit all the experimental farms in the South. "The man who demonstrates what the soil and climate will do is a blessing to his section. Scientific experiments are of inestimable benefit to a State."

She will do Georgia thoroughly. She says that she has no interest in any one section of the South more than in another. She thinks that she can interest foreign capital to invest here. Upon the completion of her work she will give some lectures before commercial bodies in New England before sailing for Europe, where she is engaged to address some of the leading commercial organizations, as well as to contribute to a number of papers. She leaves Atlanta this morning.—Atlanta Constitution.

Mrs. French-Sheldon, the Manufacturers' Record is informed, is making a study of every phase of Southern life and business for the purpose of presenting this section in its true light through a number of the foremost European journals. She is of Southern descent, if not of Southern birth, and, although living abroad for many years, and one of the world's most widely-known women—a traveler, an explorer, an author, and the owner and manager of a large London publishing house—she has taken a deep interest in Southern affairs.

Literary Notes.

An article on the American tway-blade which appears in the January number of Meehan's Monthly gives interesting information to lovers of floriculture. The chapters on wild flowers and nature and general gardening have many readable paragraphs. Thomas Meehan & Sons, Germantown, Philadelphia, Pa., are the publishers.

The Atlantic Coast Line, in order to encourage the cultivation of tobacco along its line, has had compiled by the Southern Tobacco Journal a pamphlet entitled "The Tobacco Planter's Guide," being a complete book on the management of the tobacco crop, written by practical planters and experts on the subject. Copies of this can be had from Mr. T. M. Emerson, the traffic manager, Wilmington, N. C.

"Cotton Facts," issued by Mr. Alfred B. Shepperson, the well-known cotton statistician, for 1895, has been received. This publication, which is invaluable to all interested in growing, handling or manufacturing cotton, covers every phase of the cotton situation from the acreage and production to the final consumption of cotton throughout the world. It is bound in flexible cloth cover and costs seventy-five cents. Copies can be had from Mr. Alfred B. Shepperson, Cotton Exchange Building, New York.

In McClure's Magazine for February, Mr. Harry Perry Robinson, editor of the Railway Age, will describe, section by section, bringing in all the dramatic incidents, the recent speed-run from Chicago to Buffalo—the fastest railroad run ever made in all the world. Mr. Robinson was one of the official time-keepers, and being an experienced writer on railroad topics, can tell the story as no one else possibly could. The paper will be illustrated with pictures of the locomotives

that drew the train, portraits of the engineers who operated them, and snap-shots taken from the train when it was making eighty miles an hour.

Ex-President Benjamin Harrison will discuss "The Presidential Office" very comprehensively in his "This Country of Ours" series in the forthcoming February Ladies' Home Journal. He will detail the provisions and methods of electing a Chief Magistrate, and will have much to say bearing upon the eligibility of a President for re-election; will give his views as to the length of the Presidential term, and express rather decided opinions relative to the annoyance to which Presidents are subjected from office-seekers.

The Lee family of Virginia is the subject of a series of profusely illustrated articles which will constitute a leading feature in Frank Leslie's Popular Monthly during the current year. The February number of this magazine, just out, contains the initial article of the series, entitled "The Ancestors of Gen. Robert E. Lee and the Times in which They Lived," written by Mrs. Roger A. Pryor, embodying many rare portraits, coats-of-arms, etc. This same February number of Frank Leslie's also contains beautifully illustrated articles upon "A Roman Festa," by Theo. Tracy; "Sardinia," by Charles Edwards; "The Social Settlement in America," by Rufus R. Wilson; "West Point," by Carl J. Becker; "Art Students in Paris," and stories, sketches and poems by Howard Paul, George Edgar Montgomery, Dr. J. H. Porter, J. F. Sullivan, Ella Rodman Church, Lena L. Pepper and other popular contributors.

A new and enlarged edition of the Critical Handbook, by Edward C. Mitchell, D. D., president of Leland University, is to be published in February by Harper & Brothers. This handbook, which has already been highly appreciated on both continents, having been published in England and in France, has now been thoroughly revised and enlarged to meet the growing wants of Biblical scholars. So far as the tables are concerned, the present volume is practically a new book, describing between 2000 and 3000 newly-discovered manuscripts of the New Testament. It has also, for the special benefit of American scholars, a new table describing MSS. now known to be in this country, and a glossary of abbreviations and library designations not familiar to ordinary readers. It is believed to contain a condensed list of all known New Testament manuscripts, and forms a classified index to the account of them given in works of Tischendorf and Scrivener. It is a guide to the study of the authenticity, canon and text of the Greek New Testament.

What one able and helpful journal can do for the section it represents is strikingly shown by a letter written by Mr. P. H. Fitzgerald, the president of the company which is to plant a large colony of ex-Federal soldiers in Georgia, to Mr. R. H. Edmonds, the editor of the Manufacturers' Record, of Baltimore. This company, organized in the West, represents an organization of 54,000 people, whom it proposes to colonize in the South. It has lately purchased 100,000 acres of land in Southwest Georgia, and has already 500 dwellings and 6000 colonists on this tract. Mr. Fitzgerald, in his letter to Mr. Edmonds, says that his great enterprise is due to the initiative he received from the Manufacturers' Record, and that he desires to give that journal credit for locating it in the South. We congratulate Mr. Edmonds upon this splendid fact, and gladly acknowledge the service his great journal is constantly doing for the South.—Columbia (S. C.) State.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Train Service to Southern Resorts.

It is safe to say that the railroad service this season between the North and Southern winter resorts is the best which has ever been afforded the traveling public. The progressive officials who are in charge of the passenger departments of the principal Southern systems appreciate the high class of tourist patronage which comes to Florida and other points yearly, and this year each has used every legitimate means to attract as many of these travelers as possible.

The Southern Railway Co., in connection with the Florida Central & Peninsular, forms one of the most popular lines between Washington and Florida. For the season of 1895-96 it has put on the "New York and Florida Short Line Limited," which is operated daily. This train consists of a Pullman sleeper running between New York and St. Augustine, also a compartment car between the same points, a Pullman sleeper from New York to Tampa, dining cars between New York and Washington and Salisbury, N. C., and St. Augustine, and a first-class Southern Railway coach between Washington and St. Augustine. These cars are of the latest type, lighted with Pintsch gas and heated by steam. They are complete in every detail, and form a literal "hotel on wheels." The train leaves New York at 3.20 P. M., reaches Charlotte, N. C., at 8.30 A. M. the following day, Savannah at 2.36 P. M. and Jacksonville at 6.30 P. M., in time for supper, making the run in about twenty-seven hours. Tampa is reached at 6.45 A. M. the next morning. In addition to this train, the Southern Fast Mail is also operated. This train is made up of first-class vestibuled Pullman cars and carries a sleeper between New York and Jacksonville.

The Atlantic Coast Line, in connection with the Plant Railway & Steamship Co.'s system, also forms a very popular route to Florida. Its train service on the former road will consist of three trains each way daily. These trains will consist of the following cars:

1. One mail, one express, one baggage, two passenger coaches, two sleepers.
2. One mail, one baggage, one passenger coach, five sleepers.
3. Florida Special, north and south bound, composed exclusively of Pullman vestibuled cars, one baggage, one dining, four sleepers and an observation car.

The Florida Special, which runs every week-day, was specially built for this purpose. It is heated by steam and lighted by electricity, and in every feature is designed to combine comfort and luxury. It operates between New York, Jacksonville and St. Augustine, going by way of Washington, Richmond, Charleston and Savannah. Leaving New York at 4.30 P. M., passengers reach Charleston at 12.53 P. M. the next day and Jacksonville at 6.30. The Atlantic Coast Line also makes close connection with the Colonial Express from Boston, by which passengers leaving that city at 9 A. M. on one day can reach Florida the next evening.

The Plant system has three fast trains between Charleston, S. C., and Tampa, also between Charleston and Jacksonville, all running via Savannah. Adding to this the celebrated Florida Special of the Atlantic Coast Line from New York to Jacksonville, St. Augustine and Tampa, four fast passenger trains are in service between Charleston and Jacksonville. The Florida Special runs at a

speed of forty-two miles per hour, and one of the other trains makes forty-one and four-tenths miles per hour. The first three trains each have two sleepers from New York to Tampa, one New York to Jacksonville and another from Washington to Thomasville. All of this service passes through Savannah.

From Atlanta the Plant system maintains a double daily service with sleeping cars. The morning train leaving Atlanta carries a Pullman car from St. Louis to Jacksonville, and the evening train from Atlanta carries sleeping car from Atlanta to Jacksonville, also Atlanta to Tampa via the West Coast Short Line of the Plant system. From Montgomery, Ala., are operated two fast passenger trains, the morning train carrying sleeper from Cincinnati to Jacksonville, and the evening train carrying one sleeper St. Louis to Tampa via the West Coast Line, and the other from St. Louis to Jacksonville.

In addition to the sleepers, the trains include modern built passenger coaches, baggage cars, Southern express cars and United States mail cars, all finely appointed and furnished with special regard to convenience and comfort.

The Florida East Coast Line, which connects with both the Plant and Florida Central & Peninsular routes at St. Augustine, extends through one of the most attractive portions of the State to Biscayne Bay, where frost is unknown. At Palm Beach a steamship route has been opened this winter to the Bahama islands, the trip occupying but ten hours on the water.

While the Seaboard Air Line does not operate a special Florida train service, it includes Old Point Comfort, one of the most noted winter resorts in the country. Virginia Beach, Southern Pines and other health and pleasure resorts on its route. It operates fast express trains between Portsmouth, Va., Charlotte and Atlanta, and a fast vestibuled express train, the "Atlanta Special," between Washington and Atlanta. The Bay Line of steamers, operated between Baltimore, Norfolk and Portsmouth, in connection with the Seaboard Air Line, makes direct connections with its trains.

New Orleans Traction Co.

At the annual meeting of the New Orleans Traction Co. Mr. John D. Taggart, of Louisville, succeeded Mr. Henri Bier as a director. President J. H. Maury, in his annual report, stated that the company had built 112 miles of track for the use of trolley motors. Its rolling stock includes 275 electric cars, seven steam dummies and fifty-one passenger cars—326 in all. Mr. Maury recommends that the West End dummy line be rebuilt for electric motors; also three miles of the Bayou line. During 1895 the company has placed electric cars on eight divisions, aggregating fifty-five miles of road, and has reduced its indebtedness over \$1,000,000. The Traction Company is composed largely of Louisville and New York capitalists, and controls most of the street railways of New Orleans.

S. A. L. Train Service.

In addition to the train service for winter tourists on the Seaboard Air Line already detailed in the Manufacturers' Record, two of the Pennsylvania Railroad Co.'s special excursions to Jacksonville, Fla., will go by this route on February 4 and 25. The Seaboard Air Line train service to Atlanta during the exposition was so popular that it has been maintained since. The Seaboard has recently issued a very artistic circular illustrating its route and containing half-tone views which are really superb. It is printed in green and red tints.

SOME RAILROAD IMPROVEMENTS.

Nearly \$5,000,000 to Be Spent in Depots, Shops and Terminals by a Few Companies.

The year of 1896 will be notable for the amount of money to be expended by Southern railway companies in making terminal or machine shop improvements. Although much capital was invested in this manner last year, such as the construction of the New Orleans & Western wharves, warehouses, elevator and other buildings at Port Chalmette, La., and the Southern Railway shops at Knoxville, Tenn., which give employment to 1000 men, the expenditure in this way in 1896 and 1897 will be much greater. The Manufacturers' Record gives a brief summary of some of the construction work decided on by a few lines only.

Chesapeake & Ohio, station, terminals and approaches at Richmond, Va., including brick and stone passenger station and two miles of steel viaduct; estimated cost, \$2,000,000.

Southern Railway Co., building and repair shops, roundhouse, etc., at Alexandria, Va., \$250,000.

Southern Railway Co., warehouses, docks, etc., at Portsmouth, Va., \$600,000.

Seaboard Air Line, passenger and freight station at Atlanta, \$100,000.

Norfolk & Western Railway Co., office buildings, etc., at Roanoke, Va., \$40,000.

Illinois Central Company, warehouses, elevators, docks and freight-yards at New Orleans, \$750,000.

Baltimore & Ohio, passenger station at Baltimore, \$125,000.

Baltimore & Ohio, shops, roundhouse and yards at Cumberland, Md. (partly completed), \$1,000,000.

Summing up these improvements, we have a total of \$4,865,000, and this does not include an extensive outlay to be made for repairing and enlarging stations, constructing small depots and other improvements, all to be made this year, nor for track and rolling-stock improvements.

Railways in North Carolina.

The recent report of the North Carolina Railway Commission for 1895 is an interesting document, and, although it comprises nearly 800 pages, it has already been published. The development of transportation facilities in the State is shown by the following mileage and other statistics:

Total miles of track 3616, of which the Southern controls 1063, the Atlantic Coast Line 717 and the Seaboard Air Line 665½. The value of the Southern property in the State is \$7,031,264, the Atlantic Coast Line \$6,658,426 and the Seaboard Air Line \$5,122,913. There are thirty-seven steamboat lines, owning vessels valued at \$289,003, operated in the State. Fourteen telegraph companies have 2909 miles of line in its limits.

Illinois Central at New Orleans.

The ordinance allowing the Illinois Central to increase its terminal facilities at New Orleans will enable the company to make extensive improvements to its water-front property. The area of territory specified is 3100 feet long by 600 feet wide. It is proposed to build several thousand feet of wharf front, also one or more large grain elevators and coal docks, in addition to several miles of track for siding. The cost of the work is estimated at \$750,000.

According to Vice-President Harahan, "one of the prime objects of the company is to make a direct bid for the large import trade which is at present being done by the Northern and Eastern ports. New Orleans at present only does 2 per cent. of the entire import trade of the country,

while New York handles 65 per cent. It will be our aim to change these figures materially, and for this purpose we have established agents abroad to work up the trade in the interest of this city. Vessels during the busy season come to the port loaded in ballast to take out cargoes of grain and cotton. It will be, therefore, an easy matter for these ships to bring in loads of foreign products at a low rate of freight. The money made in this manner will represent a clear gain over the present system."

Baltimore & Ohio's President.

There is good reason to believe that the directors of the Baltimore & Ohio are diligently searching for a practical railroad man of a national reputation to take charge of the system as president, while the financial policy will be guided by a special committee of the directory, the idea being to entirely separate the operating department from the financial department. The responsibility of such a position as president of the Baltimore & Ohio, situated as it is at present, is very great, and it is believed that several officials who have been tendered the position have declined to take it for this reason. Among the names spoken of have been Mr. Milton H. Smith, president of the Louisville & Nashville; Samuel M. Felton, general manager of the Queen & Crescent; D. B. Robinson, vice-president of the Atchison, Topeka & Santa Fe, and Samuel Spencer, of the Southern, as well as several Baltimoreans now connected with the road. Any of the gentlemen named would doubtless make a capable executive, but there is one fact that is regarded as sure—that the New York directors, in association with Messrs. J. P. Morgan & Co., will decide upon the man, and that Baltimore will not be consulted in the matter.

Choctaw, Oklahoma & Gulf.

The report of the Choctaw, Oklahoma & Gulf Company for the year ending October 31, 1895, shows gross earnings in the railroad department of \$358,310; operating expenses, \$210,626. In the coal-mining department the earnings were \$607,671; expenses, \$550,307. During the past year the company constructed 120 miles of road. The voting trustees, in whose names all the capital stock of the company stands, re-elected the old officers as follows: President, Francis I. Gowen; directors, Charles Hartshorne, Samuel Dickson, G. H. Earle, Jr., Sidney H. Tyler, Effingham B. Morris, Allan H. Reed, Chas. Biddle, H. Thouron and W. A. Wilbur.

The Chattanooga Southern.

At a meeting of the Chattanooga Southern Railway corporations of Alabama and Georgia, held in Atlanta, the following board of directors were chosen: H. A. B. Post, Russell Sage, Thomas H. Hubbard, Henry S. Lamb, Newman Erb and Mr. Davis, all of New York. The property is now under control of one corporation, organized under the laws of Alabama, and is named the Chattanooga Southern Railroad Co. Its headquarters will be at Gadsden, Ala., the terminus in that State.

Bought a Branch Line.

The Georgia & Alabama Company has added an important branch to its line in the Abbeville & Waycross road, which extends from Abbeville, on the Georgia & Alabama, to Lulaville, twenty-five miles. Lulaville is only four miles from Fitzgerald, the big colony town, and it is the intention of the Georgia & Alabama people to extend the road there at once. This entire line will be put in the best condition, and it is expected that within sixty

days trains will be running to the great Grand Army colony town.

A Report Denied.

President T. G. Bush, of the Mobile & Birmingham, in a letter to the Manufacturers' Record denies the statement that arrangements have been made to complete the line to Selma, Ala.

Washington to the Coast.

A company to build an electric road from Washington to Chesapeake bay, passing through Annapolis, Md., has been incorporated under the title of the Washington, Annapolis & Chesapeake Co., with \$500,000 capital. The directors are Jos. B. Seth, of Baltimore; George E. Emmons, Louis M. Ritchie, Washington, D. C.; Richard S. Mitchell, Charles county; Howard O. Emmons, Prince George's county; Thomas S. Constantine, New York city; Robert Moss, Anne Arundel county. A preliminary survey has been made of the route, which is calculated to be twenty-seven miles long. In addition to the gentlemen named, it is stated that New York capitalists have become interested in it.

Extending Its Business.

The application of the New York, Philadelphia & Norfolk Company for authority from the Virginia legislature to extend its line in and around Portsmouth is understood to mean that the Pennsylvania Company, of which the New York, Philadelphia & Norfolk is a division, intends increasing its facilities for securing business at that port and enlarging its terminal facilities. At present the New York, Philadelphia & Norfolk has used its docks at Norfolk for most of its Southern business, except that secured over the Norfolk & Southern, which has been ferried across Hampton Roads to the Cape Charles terminus of the line from Berkeley, the Norfolk & Southern terminus. It is believed that the New York, Philadelphia & Norfolk intends constructing a belt road around Portsmouth, with branches into the trucking section adjacent to the city.

Railroad Notes.

The Aransas Harbor & Northern Company has decided to reduce its capital from \$3,000,000 to \$150,000.

The Seaboard Air Line has shown its interest in the Tennessee Centennial Exposition by donating \$1000 to it.

The Norfolk & Ocean View Hotel & Railroad Co. has changed its name to the Norfolk & Ocean View Railroad Co.

Mr. J. T. M. Barnes has been elected treasurer of the Western Maryland Company to succeed the late George H. Baer.

Mr. A. H. Love, of Knoxville, Tenn., is building a steamer to run on the Tennessee river between Knoxville and Chattanooga.

Vice-President W. E. Huger, of the East Shore Terminal Railway Co., of Charleston, has been appointed receiver of the company.

Prest. W. G. Raoul, of the Mexican National Railroad, has been elected a director of the Louisville & Nashville to fill a vacancy.

Mr. Sturgis G. Bates is appointed general freight agent of the Eastern Kentucky Railway Co., vice Mr. George Gibbs, who is appointed real estate agent.

The shipments of fruit to Baltimore are to be increased by the establishment of a new steamship line between that city and Cuba. Three steamships will be engaged in the business.

Mr. R. L. Todd, traveling passenger agent of the Central and Port Royal & Western Carolina Railroads, has been appointed division passenger agent of

the Plant system, with headquarters at Jacksonville.

A steamship line has been established between Jacksonville, Fla., and Nassau, in the Bahama Islands. The steamship Three Friends will be placed on the route, touching at Biscayne Bay and Key West.

The Norfolk Street Railroad Co. has filed a deed in that city transferring its property, privileges and franchises to the Safe Deposit & Trust Co. of Baltimore in trust to secure payment of the interest and principal of the \$1,000,000 5 per cent. 40-year bond issue decided on last May.

The stockholders of the Columbia, Newberry & Laurens Railroad have authorized the purchase of the Laurens Railroad between Dover Junction and Clinton, a distance of about twelve miles, thus allowing a connection with the Port Royal & Western Carolina for Spartanburg and Greenville.

The annual meeting of the stockholders of the Atlantic Short Line Railroad Co., held in Savannah, resulted in the election of the following board of directors: Jno. R. Young, J. F. Hanson, B. A. Denmark, M. B. Lane, J. B. Floyd, W. W. Williamson, Walter T. Hanson, Roff Sims, W. R. White. The directors elected Mr. John R. Young, president, and Mr. Walter G. Hartridge, secretary and treasurer.

A charter has been granted to the Georgia company interested in the East & West Railroad of Alabama. The incorporators are Edward Kelly, Eugene Kelly, Jr., T. E. Kelly, Dan F. Sullivan, Eugene K. Austin, J. F. Cavanah, of New York, and Charles P. Ball, of Montgomery, Ala. The name of the road will not be changed. The capital stock will be \$1,500,000.

General Passenger Agent H. T. Townsend, of the St. Louis, Iron Mountain & Southern route, has just issued a handsome 80-page book on Hot Springs, Ark. The book is beautifully illustrated and finished in embossed paper in colors—red, green and blue. The publication is ably edited, and the interesting history of the springs from their discovery up to the present day is told.

As an indication of the heavy freight traffic on the Chesapeake & Ohio, a dispatch from Richmond states that in a period of twenty-four hours recently there passed over the line 207 freight trains, consisting of 5213 loaded and 2598 empty cars. The loaded eastbound cars carried chiefly coal and export grain, flour, etc. The coal loaded at the mines on the Chesapeake & Ohio and transported both east and westbound since January 1 has averaged over 700 cars per day.

Another Big Colony Enterprise in North Carolina.

Col. J. D. Kase, of Greensboro, N. C., has just consummated a sale of about 17,000 acres of land, lying in Cumberland and Harnet counties, N. C., to Messrs. Emil Lindburg and Thos. B. Henley, of New York city.

The land is divided by the Cape Fear & Yadkin Valley Railroad, and is the continuation of the "Southern Pines" range on the northeast, and separated therefrom by about ten miles.

Mr. Lindburg is a well-known colonist, and expects to have located on these lands 1500 families within the coming year.

Hon. Benton McMillan, House of Representatives, in a letter to the Manufacturers' Record, says:

"* * * Permit me in this connection to say that I know of no more potent factor in calling attention to the wonderful resources of the South in the whole country than your Journal. You have been ever faithful in your effort to advance the best interest of our Southland."

FINANCIAL NEWS.

In Good Condition.

At the annual meeting of the American Banking & Trust Co. of Baltimore the reports showed a net surplus and reserve of \$30,000, after paying all expenses and losses. The losses of the company were only \$360.41. The company started a year ago with a paid-up capital of \$100,000, which was increased in July, and now has a paid-up capital of \$500,000. The directors elected the following officers: James Bond, president; Joshua Horner and John Hubner, vice-presidents; John T. Stone, secretary and treasurer, and George Norbury Mackenzie, assistant secretary.

Maryland Trust Co.

The stockholders of the Maryland Trust Co. of Baltimore at their annual meeting re-elected the board of directors and officers of the company. They are as follows: President, Col. J. Wilcox Brown; Lloyd L. Jackson, vice-president, and J. Bernard Scott, secretary and treasurer, and directors William A. Marburg, H. J. Bowdoin, Basil B. Gordon, Lloyd L. Jackson, J. Wilcox Brown, Fred M. Colston, Joshua Levering, Frank Brown, Leopold Strouse, Henry Walters, H. A. Parr, B. N. Baker, Andrew D. Jones, James Bond, Alexander Brown, T. K. Worthington, W. B. Brooks, Jr., Clayton C. Hall, Frederick W. Wood, J. D. Baker, John B. Garrett, A. A. H. Boisevain, W. H. Baldwin, Jr., and Douglas H. Gordon.

Bank Changes.

The following are the principal changes which have been made among Southern bank officers:

O. H. Williams elected president, and J. B. Sullivan, vice-president, of the Merchants' National Bank, Rome, Ga.

H. J. McGrath, president of Canton National Bank at Baltimore.

Walter B. Cook, cashier Merchants' Bank, and E. D. Walter, cashier National Bank, Brunswick, Ga.

John F. Bruton, vice-president Wilson (N. C.) National Bank.

Charles E. Johnson, vice-president National Bank of Raleigh, N. C.

New Corporations.

W. P. Simpson, J. A. Glover and others are preparing to open a State bank at Rome, Ga.

The New Orleans Progressive Building and Loan Association has been organized with \$5,000,000 capital.

R. A. Mayes, D. B. Stanfield and others are organizing a national bank at Mayfield, Ky., with \$100,000 capital.

The Colonial Bank has been organized at Baltimore by Charles J. Tracy, P. Jos. Perrin and others with \$50,000 capital.

R. J. Devant, of Savannah; W. L. Gignilliat and others have formed the Mutual Fire Association, with offices at Savannah.

John W. Fretwell, A. Fernandez and others have organized the Workmen's Savings Co. at Savannah, Ga., with \$50,000 capital.

Authority has been granted for the organization of the Greensboro National Bank of Greensboro, N. C., with a capital of \$100,000.

The Bank of Tifton, Ga., of which W. S. Witham, of Atlanta, is president, and H. H. Tift, of Tifton, vice-president, has opened a branch at Fitzgerald, Ga.

An effort is being made at Catonsville, Md., to establish a national bank there. A meeting will be held soon with a view of securing capital. Among those who have subscribed to stock are Messrs. John Hubner, Edwin J. Farber and B. N. Baker.

Articles of incorporation of the Ashley County Bank, at Hamburg, Ark., have been filed with the secretary of state. Capital stock is \$15,000. The directors are: W. F. McCombs, president; J. D. Hugh, J. J. Dean, W. T. Cone, J. H. Pryor, J. W. Van Gilder and W. M. Whitlow.

New Securities.

N. B. Baum, chairman of committee, will receive bids until February 20 for \$25,000 in 6 per cent. improvement bonds of Dublin, Ga.

The city of Tampa, Fla., has decided to issue \$300,000 in 6 per cent. bonds for municipal improvements. Gordon Keller, city treasurer, may be addressed.

Interest and Dividends.

Lowry Banking Co., Atlanta, 4 per cent., semi-annual.

State Savings Bank, Atlanta, 3 per cent., semi-annual.

Atlanta National Bank, 10 per cent., annual.

American Trust & Banking Co., Atlanta, 2½ per cent., semi-annual.

Louisville Gas Co., 2½ per cent., semi-annual.

Memphis National Bank, 3 per cent., semi-annual.

Davis & Wiley Bank, Salisbury, N. C., 4 per cent., semi-annual.

Charlotte (N. C.) Gas Co., 5 per cent., semi-annual.

Franklin Insurance Co., Wheeling, W. Va., 3 per cent.

Baltimore & Reisterstown Road Co., 2 per cent., semi-annual.

Washington (D. C.) Loan & Trust Co., 1½ per cent., quarterly.

West Nashville (Tenn.) Building Co., 3 per cent., semi-annual.

Merchants and Traders' Bank, Brunswick, Ga., 3 per cent., semi-annual.

Citizens' Bank, Van Buren, Ark., 5 per cent., semi-annual.

First National Bank, Valdosta, Ga., 4 per cent., semi-annual.

Merchants' Bank, Valdosta, Ga., 4 per cent., semi-annual.

First National Bank, Statesville, N. C., 4 per cent., semi-annual.

Bank of Woodbury, Tenn., 12 per cent., annual.

Commercial Bank, Cedartown, Ga., 4 per cent., semi-annual.

Newnan (Ga.) Banking Co., 3 per cent., semi-annual.

First National Bank, Newnan, 4 per cent., semi-annual.

Newnan National Bank, 4 per cent., semi-annual.

Southern Insurance Co., New Orleans, 4 per cent., semi-annual.

Savannah Gas Co., 3½ per cent.

Tuskaloosa (Ala.) Cotton Mills, 10 per cent., annual.

St. Landry (La.) State Bank, 4 per cent., semi-annual.

Nashville, Chattanooga & St. Louis Railroad Co., 1 per cent., quarterly.

Merchants and Farmers' Bank, Hogsansville, Ga., 10 per cent., annual.

Ybor City (Fla.) Loan Association, 8 per cent., annual.

Financial Notes.

The directors of the Dime Savings Bank of Columbia, S. C., have determined to change its name to the Canal Bank and to increase its capital to \$50,000.

The Messrs. Fries, of Salem, N. C.; Brown Bros., Vaughn & Co. and others have taken an interest in the People's National Bank, and will enlarge its business facilities.

The directors of the Atlanta Trust & Banking Co. are considering the idea of changing it to a national bank. The company has \$2,061,000 more money on deposit than a year ago.

The Elliott Car Works, of Gadsden, Ala., manufacturer of railway cars, is now very busily engaged filling the many orders on hand. The company employs 400 men, and has enough work on hand at present to keep the plant in operation for months to come. An order for 150 new cars for the C. R. & C. Railway has just been received.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Card Clothing.

Lowell, Mass., January 11.

Editor *Manufacturers' Record*:

In the processes of manipulating cotton fibres from the gin to the loom there is no one of more importance than that of carding. This process is the foundation for the quality of yarn. If the carding for certain reasons is of low grade, the yarn spun will also be weak in strength and of a rough exterior. If, on the other hand, we find the carding of a superior quality, then the yarn spun will be strong, with the fibres laying smooth and compact. Now, while the writer admits that the structure of the carding engine and quantity of cotton carded per day has a bearing on the strength of yarn spun, yet the writer feels justified in assuming that the foundation for card clothing and the kind of wire set has much to do with the success of the mill and grade of cloth made.

In treating the subject of card clothing, the first point to consider is the foundation. In speaking of the English cloth there are three main types of foundations used. The first is constructed of a specially woven cloth of great evenness and strength; the second is a combination of cotton, wool and cotton in the order named, and the third is a fabric made with a strong cotton and wool back, faced with a thin sheet of india rubber, securely cemented to it. The first cloth is likely to be possessed of a peculiar grip, and will so hold the teeth that when they are set there will be very little yielding of the fabric itself. This, under certain circumstances, is very desirable, and when the places in which such a fabric is used are seen it will be observed that the construction is needed to obtain proper results.

The second combination is one which is peculiar in its effect. The wire passes through a material which at its outer surface is possessed of great resisting power, while in the middle it is softer and more yielding, presenting in this respect a difference from the first grade of cloth. The third variety has the special feature of holding the wire firmly, but easily, at the point where it is imbedded in the cloth at its base, while at the surface from which it emerges a medium is employed, which permits of a considerable amount of flexure, while its elasticity causes it to impel the teeth to assume their normal position as soon as they are relieved from the pressure exerted on them. It will, however, be noticed that in all three varieties there is a material employed which is comparatively unyielding and which plays an important part in the work of the clothing. As is well known, the fillets are put upon the various working parts in a state of high tension, and it is very important that the foundation shall be able not only to resist the effect of this, but also, when fixed, to retain its position and hold.

The setting of the wire falls into three divisions. The first is called the plain setting; that is, when their points are looked at they are in a straight line both longitudinally and transversely over the clothing. This is a setting which is not largely used, especially for the type of card with which it is intended more particularly to deal; that is, the revolving flat card. It is obvious that if any fibrous material is drawn through teeth arranged in this way it would tend to assume a stringy appearance and that much of the good fibres would be taken out with the short fibres and trash.

The second method is called the twill. This, as its name applies, follows the mode of forming twilled cloth, and the points run in diagonal lines transversely over the clothing. The third setting adopted is the ribbed, the teeth being set in groups of three, each group overlapping its predecessor.

It may be of interest to know how we ascertain the number of points to the square foot. I will give two examples from clothing furnished by Samuel Law & Sons: Main cylinder clothed with double convex wire two-inch fillet, and the formula is as follows: 23 nogs, 3 crowns, 69 crowns, 2 points, 138 points, $3\frac{1}{2}$ rows, 144 square inches. The example figured out is as follows: 23 multiplied by 3 equals 69 multiplied by 2 equals 138 multiplied by $3\frac{1}{2}$ equals 483 multiplied by 144 equals 69,552 points per square foot. On doffers one and one-half-inch fillet the formula is as follows: 25 nogs, 3 crowns, 75 crowns, 2 points, 150 points, $3\frac{1}{2}$ rows, 500 points, 144 square feet; then 25 multiplied by 3 equals 75 multiplied by 2 equals 150 multiplied by $3\frac{1}{2}$ equals 500 multiplied by 144 equals 72,000 points per square foot.

Since the revolving flat card has become a necessity there is a universal feeling on the part of manufacturers to apply filleting. There is very much to be said in favor of this system, especially since the improved machines for mounting have come into use. The preservation of an even tension throughout the width as well as the length is most important, and this can be attained by the use of Brownfield's thumbscrew friction. Cylinders are now polished smooth and the fillets are drawn tight to the polished surface.

We now come to another important point, and that is the kind of wire to use for card teeth. In former years the universal custom was to use iron wire for card teeth. For a long period nothing else was used until the discovery of Bessemer steel brought within the reach of the card-makers a material that was superior to the iron wire, in that it was slightly tempered. Steel wire is used in two conditions; that is, unhardened and hardened and tempered. Hardened and tempered steel wire has qualities of elasticity and resistance that are absent in mild steel wire. For this reason hardened and tempered wire for card teeth has become a favorite material for that purpose.

The process of hardening and tempering steel wire is of great age, but the methods of doing so continuously that are now adopted have the merits of being speedy and certain. The process is one by which the soft wire, after being reduced to the size or number required, is rapidly and continuously passed either through a flame or over a heated surface, by which action it is brought to a red heat, after which it is passed through a bath of water, being thus hardened, and is subsequently dealt with by heat so as to temper it. It is obvious that the chief points of importance in the treatment are the duration of the two heating processes, the character of the heat applied and the material employed to harden and temper. As the wire passes in a continuous length through the combined apparatus it is quite clear that, given a definitely constant heat that can be easily maintained, the length of time during which the wire is submitted to its action can be easily regulated by the velocity at which it is passed through the apparatus. This is a matter of easy regulation, and when gas flames are used, either as the direct or indirect method of heating the wire, their number and the lineal heating surface provided can also be easily adjusted.

Opinions differ as to whether the wire

should be passed through a bare flame or not. In the opinion of the writer this course is attended with very great risk, as the heating of the wire by direct contact with the flame tends to oxidation, which, with a material so minute, is very deleterious. The wire in such cases is very unevenly tempered, and when the process of hardening takes place the wire is left brittle, with but very little elasticity. During the past fifteen years I have used several kinds of hardened and tempered cast-steel wire. In several instances the card teeth were practically worthless from the fact that it was so hard in spots that it was quite impossible to grind the points of teeth true. Then again the teeth would break off at the heel as easily as we could break a pipe-stem. One instance: Some time since an order was filled for No. 33 wire in the form of fillets for workers and clearers. The clothing to look at was of a superior grade, but when applied to rolls and placed in the grinding machine it was soon ascertained that the wire had been spoiled by the process of hardening and tempering through gas flames and water. Even while grinding very light with the improved Entwistle traverse grinder the teeth broke from the foundation, so that in very many places there was nothing left.

In hardening the heated wire, water, in the writer's opinion, should not be used, as the molecular changes injected into the pores of the wire are too severe. It is well known that all the fine springs employed for various purposes are hardened and tempered in oil, and when the diameter of card wire is borne in mind it will be seen how difficult it must be to avoid damage in water-hardening. For these reasons an oil bath is preferred, and it is found that far better results are obtained by its use. In like manner it is much safer to temper the wire by passing it through a bath of lead, heated to the required temperature, rather than through an open flame.

There is another point which is of much importance in considering this matter. As a rule, the wire which is used for card clothing is drawn by the ordinary method. It may not be generally known that the object of drawing is to cause the metal to flow and thus enable the reduction to take place, although there is in this treatment a certain amount of compression. There is the further fact that the surface is more or less roughened or raised, instead of being smooth and hard. In the new system of rolling that has been patented by Samuel Law & Sons, Cleckheaton, England, it is safe to assume that the reduction of the wire to the necessary size and shape presents many advantages over the system of drawing. The surface of the wire as it emerges from the roller is compressed and is therefore less likely to rub or damage the cotton fibres. The solid and homogeneous condition thus induced has an effect also upon the character of the wire surface after hardening, and generally it is admitted that rolling has many and unmistakable advantages over drawing. The double convex wire which has been adopted by Messrs. Samuel Law & Sons will be treated in the writer's next contribution.

Not in Love with Politicians.

The Caraleigh Mills Co., of Raleigh, N. C., in a letter to the *Manufacturers' Record* states that if Congress will give the needed financial relief its mill will be increased this year by 3000 spindles and 100 looms. This company's business for the past year has been a most satisfactory one, its semi-annual dividend, lately declared, being 3 per cent., with more than that sum carried to the surplus account. Commenting

on the business outlook, the company says: "The present outlook for business is not so good as a year ago, and is caused, we think, by the strained financial condition of the country. Politicians are doing more harm than all other causes combined. Kill the politicians and give us patriots and all will be well."

A Successful Cotton Mill.

A correspondent of the New York Tribune, writing from South Carolina, illustrates the industrial progress of that State by an account of the work done by the Courtenay Manufacturing Co. From his letter we take the following points:

"The president and treasurer, William A. Courtenay, well known in the dry-goods district of New York city, was mayor of Charleston for eight years, his period of service including the trying time of the earthquake, which wrought such havoc in that city, and he was also in business there for many years. The directors are all men of weight in the financial world. One of them, Francis J. Pelzer, is the largest single mill-owner in South Carolina; R. G. Rhett and W. B. Smith Whaley represent the estate of W. B. Smith, who was a Charleston millionaire, and Edwin L. Frost, the remaining director, is a member of the large cotton house of Frost & Co., Charleston.

Mr. Courtenay, in discussing today the establishing of his mill and the cost, said:

"The site of the mill and village was on May 1, 1893, covered with forest trees, oak, chestnut, pine and maple, and a space had first to be cleared for their erection. The company owns 500 acres of land on both sides of the Little river for a distance of two miles, so the supply of lumber was practically unlimited, and whatever was needed in the construction of the cottages and as beams or flooring for the mill and offices was sawed at the neighboring saw mills and delivered here at \$7 a thousand. The clay on the spot furnished material for excellent brick, which were manufactured here and used in the mill. The bricks were made at a cost of \$3.50 a thousand, and the cost of laying them in the walls was \$3.50 a thousand more. The extensive stone work in the river—the dam, the buttresses and the other parts—is all granite, which was blasted out of the ground at almost the very spot where it was to be used to store up the water, thus it cost nothing for securing or transporting it. All the unskilled labor was done by colored men, who received from seventy-five cents to \$1 a day."

"This model village, as it stands today, consists of a series of nearly sixty cottages, in four rows, with plenty of ground around each house, and the mile-and-a-half track which joins the Southern Railway at Courtenay's Junction running through the middle of the place; the general store, the market and icehouse, the office building, the five cotton warehouses, built according to the standard insurance requirements, with high brick partitions between every pair of compartments, and the mill. This big structure is 250 feet long and four stories, or sixty-five feet high, with a tower ninety feet in height. In it are 16,500 spindles and 540 looms. All the cotton used in this mill, 3500 bales a year, is raised within a radius of twenty miles, the farmers bringing their own bales in their own wagons and selling their product directly to the mill. It is Piedmont cotton, which is considered the best upland cotton raised.

"The mill employs about 340 persons, men, women and children. They earn from forty cents to \$3 each in a working day of eleven hours, and the company's pay-roll is nearly \$100,000 a year. These 340 persons represent an aggregate popu-

lation of between 800 and 900 in the village. These people are lodged in about sixty cottages, all lathed and plastered, neatly painted inside and outside and attractive in appearance. Each cottage has running water, supplied from a 130,000-gallon reservoir on the top of a high hill overlooking the village; and an excellent drainage system is also in operation. Some of the houses have eight rooms, some six, and a few of the latter are so arranged that they can be divided each into two three-room cottages, giving accommodation for a family of two persons. The erection of these improved cottages has had the effect of drawing to the service of the Courtenay Company a superior class of operatives, who appreciate the comforts afforded by the village.

"There is no village government. No compulsion is exerted upon the men, who vote as they please in county, State and national elections. The State keeps a trial justice here, for disposing of petty cases which may arise from time to time. Of course, no liquor is sold, for this is South Carolina, and Tillman's dispensary law is strictly enforced. Only white people live in the village proper, the colored population making their home on the other side of the railroad track, in a reservation of their own.

"Mr. Courtenay has great faith in the future of cotton manufacturing in this State. He said, in the course of conversation on the subject:

"The South Carolina mills will average 7 to 12 per cent. yearly dividends, besides adding to a surplus for improvements, for new buildings, etc. January 1, 1896, is likely to see South Carolina the first of all the cotton States in the output of cotton cloth. There is a superabundance of water-powers in the State, with no ice and no other interruption summer or winter. There are those representing from 20,000 to 100,000 spindles, which can be improved for \$1.50 a spindle for large powers, and \$2 to \$2.50 a spindle for smaller powers. A thousand horse-power here will turn 30,000 spindles at a yearly expenditure of \$2500.

"The Northern cotton manufacturer, deciding to extend his business and looking to the South as the most advantageous location, would, perhaps, do best to buy a site in a Southern State and put up his own mill. The Northern investor, on the other hand, who is not familiar with cotton manufacturing, cannot act more wisely than to come to the Southern manufacturer and give him an opportunity to enlarge his factory and otherwise extend his facilities. The investor needn't worry about his money; his interests are identical with the mill-owners, and are always under the master's eye; and all he will have to do will be to put in his share of the capital and take out satisfactory dividends."

A Prosperous Georgia Mill.

UNION COTTON MILLS,

La Fayette, Ga., January 20.

Editor *Manufacturers' Record*:

The Union Cotton Mills was organized in 1891, with a capital stock of \$100,000. Buildings were erected in 1892, and the manufacture of fine sheetings and towings begun the very last of that year. The first instalment of machinery consisted of ten Pettee cards, 3648 49D Rabbeth spindles, Fales & Jenks frames, and 100 Stafford looms. Since starting there has been built, out of the earnings of the mill, two additions, the last of which is now being filled with machinery. As soon as this is all in we will then have twenty-one cards, 7488 spindles and 208 looms. The mill paid its first semi-annual dividend on January and July 15, 1895, of 3 per cent. The last annual meeting was held on October 5, 1895. The former board of directors were re-elected, as fol-

lows: A. R. Steele, Jas. E. Patton, Jas. P. Shattuck, W. P. Jackson, Jno. B. Henderson, G. W. Davenport and F. F. Wiehl. The old officers were also re-elected, as follows: A. R. Steele, president and general manager, and P. D. Fortune, secretary and treasurer. A semi-annual dividend of 3 per cent. was declared, payable on January and July 15, 1896, the first of which has just been paid. It is the intention of the management to still pursue this line of policy by keeping up these dividends and reserving the balance of the earnings to be used in the enlargements of the plant as the directors think it feasible to do so.

P. D. FORTUNE, Secty. and Treas.

Cotton for Japan.

One of the strongest arguments in favor of the Nicaragua canal is the benefit it would be to the cotton producers of the South by opening the markets of Japan to a much larger extent than at present. Although the cotton now goes overland to the Pacific coast and thence by steamer, it is calculated that this year over 50,000 bales will be exported. In commenting on the trade the San Francisco Examiner says:

"Heavy shipments of raw cotton, from Texas points and New Orleans are en route to San Francisco over the Southern Pacific. The ultimate destination of this material is Yokohama. For several weeks this shipment has been so voluminous that the railroad company has been compelled to ask for increased facilities from the Pacific Mail and the Occidental and Oriental steamship companies. These shipments indicate that Japan is increasing the number of her spindles and is greatly augmenting her output of manufactured cotton goods. In other words, the Japanese are evidently bent upon first supplying their home market with cotton fabrics, instead of buying them abroad, and will later on become a manufacturing competitor in the markets of the world. It can be authoritatively stated that the Southern Pacific people have during the past few weeks hauled from Texas and New Orleans about 14,000 bales of this season's cotton, en route for Yokohama. About 4000 additional bales are already on the way."

Were the canal opened the cotton shippers could secure the advantage of a low rate by water, and the American staple would doubtless have the monopoly in the Japanese market, with the exception of a few grades of Egyptian cotton used in making special goods.

Cotton Mill for Blacksburg, S. C.

Arrangements are now under way for the completion of plans for the erection of the cotton mill at Blacksburg, S. C., which was decided upon last fall by the Mechanics' Building and Loan Association. The association has determined to invest all of its stock in the proposed mill, and W. B. De Loach, their solicitor, has been instructed to apply to the present legislature for a charter for the Blacksburg Cotton Mill. Directors of the new company have been elected as follows: Messrs. T. L. Black, D. L. Brown, W. Anderson, J. T. Darwin, J. W. Duff, D. D. Gaston, J. S. Hartwell, O. A. Osborne and G. A. Parker. These chose Dr. J. T. Darwin, president; D. L. Brown, vice-president, and J. W. Duff, secretary.

A 15,000-Spindle Plant.

A 15,000-spindle plant will be erected at Hillsboro, N. C., and Mr. James E. Webb, who is to operate and own same, is now in the North making contracts for a complete equipment of machinery. Preparations are now being made for the commencement of work at once on the erection of the necessary buildings.

Big Cotton-Mill Companies Looking to the South.

The Lawrence Manufacturing Co., of Lowell, Mass., of which Mr. C. P. Baker, Ames Building, Boston, is treasurer, is now investigating the South with a view to the erection of a mill there. In a letter to the *Manufacturers' Record* Mr. Baker says:

"This company has lately made some investigation of the cotton-manufacturing situation in the South, but has as yet made no definite move toward the erection of a mill there."

This company is one of the big cotton-mill concerns of New England, having a capital stock of \$1,500,000. It operates 120,000 spindles, and should it build a mill in the South it will probably put up a mill to cost at least \$500,000 or more.

The Tremont & Suffolk Mills Co., of Lowell, capital stock \$1,500,000, has applied to the State legislature for permission to increase its capital stock to \$3,000,000 and to do business outside of Massachusetts. This move is doubtless the first step in getting ready to build in the South.

One after another of the great New England cotton-mill concerns is looking southward, and every new mill built in the South by one of these companies makes more emphatic the necessity for the other companies in that section to follow suit.

Textile Manufacturers at Chicago.

A number of textile manufacturers met in convention at Chicago Tuesday last and discussed various matters pertaining to this industry. A few Southern men were interviewed by the *Inter Ocean*, and gave their opinions as follows:

Charles Estes, president of the John P. King Manufacturing Co., Augusta, Ga., says: "The low price of goods in Europe and Asiatic countries doesn't seem to affect us much. We have been able to compete so far. The thing we object to is the repeal of the reciprocity laws. If I were to suggest a remedy for the present conditions, I don't think of anything better than unlimited free coinage, 16 to 1. Of course, this would create a disturbance for a while, but would eventually give an impetus to the trade and commerce of this country."

R. M. Oates, Jr., hosiery manufacturer, Charlotte, N. C., says: "I am a rantankerous, red-hot democrat when it comes to local and State issues, but I am with you body and soul in the demand for a protective tariff when it comes to national issues. I come in direct contact with German goods in my business. In view of these facts I am opposed to the democratic policy of free trade or tariff for revenue only, and urge strenuously the adoption by our government of a strong protective tariff against the fruits of pauper labor of foreign countries. I consider an ad valorem duty almost equivalent to no duty at all; aside from its failure to protect, it places a premium on fraud."

James N. and W. H. Williamson, of the Pilot Cotton Mills, Raleigh, N. C., says: "We think this is a move in the right direction, and trust that it will meet with much encouragement and exert an influence for good to help us out of the lethargic state of business we find ourselves in."

James A. Cole, treasurer of the Enterprise Manufacturing Co., Coldridge, N. C., says: "We are fully in accord with any move they may take in restoring protection to the American manufacturers against the flood of cheap foreign goods caused by a low tariff. Restore the protective tariff and we will again be prosperous, and our people will have work at fair wages."

J. D. Simpson, of the Mayfield Woolen Mills, Kentucky, says: "I am in accord

with the purpose of the meeting and agree with you that some action ought to be taken to protect the manufacturers of America."

P. Rice, of the Concord Woolen Mills, of Niojack, Ga., says: "I hope the tariff will be discussed, as I consider it the only proper way to raise the government expenses. We want a revision of our financial system."

Henry Warren, of Warren Manufacturing Co., Oregon, Tenn., says: "I would suggest that Congress proceed to re-enact the McKinley act as soon as possible, as I think his plans, if carried into execution, would be the very thing for the people generally. We believe in a high protective tariff, and we also favor a free and unlimited coinage of silver at a ratio of 16 to 1. The demonetization of silver is partly the cause of the hard times. We have been seriously thinking of moving our plant to Mexico."

Another Yarn Mill for Charlotte.

Local capital has secured another yarn mill for Charlotte, N. C., and the new enterprise will be pushed to completion at an early day. A site of sixteen acres has been secured at Groveton, a suburb of the city, and a company will be organized at once for the erection on the land of a mill building to be equipped with 5000 spindles for the manufacture of fine hosiery yarns. Six hundred thousand bricks for the building have already been contracted for, and work on the latter will commence by March 1. The entire capital necessary for the enterprise has been secured by Mr. H. S. Chadwick, the promoter of the mill, and who is to be president of the company. The capital stock is to be \$75,000.

Textile Notes.

The Caraleigh Cotton Mills, of Raleigh, N. C., recently declared a semi-annual dividend of 3 per cent.

Messrs. N. D. Arnold, L. F. Edwards and associates contemplate erecting a cotton mill or rope factory near Athens, Ga.

The stockholders of the Walhalla Cotton Mills, of Walhalla, S. C., contemplates increasing its capital stock from \$75,000 to \$100,000.

Mr. D. A. Tompkins, of Charlotte, N. C., is endeavoring to interest Charleston (S. C.) capital in the erection of a cotton mill on the co-operative plan.

George W. Payne & Co., manufacturers of cone-winders, etc., Pawtucket, R. I., have lately shipped a doubling spooler to the Porterdale Mills, Covington, Ga.

There is a prospect of a mill at Americus, Ga., Mr. J. H. Bromley, of 205 South 42d street, Philadelphia, Pa., having made a proposition for the erection of same.

A special dispatch from Dalton, Ga., says: "The Crown Cotton Mill will double its capacity, beginning the first of April. This plant declared a 44½ per cent. dividend last year."

The Richlands Cotton Mill Co., of Columbia, S. C., held its annual meeting of stockholders last week, and the present officers and directors were re-elected for the ensuing year.

The annual meeting of the stockholders of the Granby Cotton Mill Co., now building, of Columbia, S. C., was held last week, and the present directors and officers were re-elected.

There is a movement afoot at Pittsboro, N. C., for the formation of a company to erect a cotton mill, and subscriptions to same have been secured to the amount of about \$10,000.

The Bamberg Cotton Mills, of Bamberg, S. C., has declared a dividend of 10 per cent. and passed a large sum to the surplus account. This company is now

preparing for the proposed enlargement noted last week.

The annual meeting of the stockholders of the Odell Manufacturing Co., of Concord, N. C., was held last week, and a dividend of 4 per cent. was declared for the past six months' business.

There is a movement on foot at Selma, Ala., for the removal of a Chicago cotton mill to that city. Messrs. H. L. McKee and C. L. Petriken have become interested in the matter, and have gone to Chicago to investigate.

The Winton Knitting Mill, of Winton, N. C., has been organized and will at once equip a plant for the manufacture of hosiery. The company is now desirous of corresponding with parties through whom its output can be sold.

The stockholders of the Statesville Cotton Mills, of Statesville, N. C., held their annual meeting last week and the officers' reports were read, showing the company's affairs to be in a satisfactory condition. The old officers and directors were re-elected.

A very busy plant is that of the Middlesex Knitting Mills, of Martinsburg, W. Va. This mill has been running late at night since December 1 in order to fill orders, and has decided to continue for another month. The plant produces 1000 dozen pairs of hose each day.

The annual meeting of the stockholders of the Tuscaloosa Cotton Mills, of Tuscaloosa, Ala., was held on the 17th inst. The report of the president showed a very satisfactory condition of affairs, and a dividend of 10 per cent. was declared. Present officers were re-elected.

The stockholders of the Highland Park Manufacturing Co., of Charlotte, N. C., held their annual meeting last week, and the report of the company's condition was satisfactory. The same officers were re-elected; Mr. Wm. E. Holt, president; C. W. Johnson, secretary and treasurer.

The annual meeting of the stockholders of the Stanley Creek Cotton Mills, of Stanley Creek, N. C., was held last week, and the present officers and directors were elected. The company's affairs were reported as in good condition, and the usual dividend will be declared in April.

The Asheville Cotton Mills, of Asheville, N. C., has recently put in twenty Crompton four-box looms, making 420 in all, which are kept busy on plaids, cottonades and stripes. The company is now running its spindles at night in order to supply its looms. Mr. L. Banks Holt, of Graham, N. C., is president.

The organization of a cotton-mill company on the co-operative plan is in progress at Sparta, Ga., and about a 2500-spindle plant is contemplated. A new building will be erected one story high, 72x120 feet, or possibly an old mill building four stories high, 50x150 feet, will be secured. Mr. E. A. Rozier is the prime mover in the enterprise.

Mr. J. A. Smith has made extensive improvements to the Swift Creek Cotton Mills, near Petersburg, Va., as stated in our last issue. All the old machinery except 100 looms was thrown out and fifty new looms put in. There are also 5670 spindles installed, and the entire plant will resume operations within thirty days. The company's capital stock is \$70,000.

The stockholders of the G. W. Patterson Manufacturing Co., of Concord, N. C., was held last week, and the reports of the officers were read. The business was found to be in a very satisfactory condition, and the old officers and directors were re-elected. The plant will now operate day and night in order to keep up with the demand for its goods.

The stockholders of the Galveston Bag-

ging & Cordage Co., of Galveston, Texas, held their annual meeting last week, and the reports of the officers were read. The results of the business for the past year were very satisfactory, and the company contemplates enlarging its operations for the coming year. The old officers and directors were re-elected. Mr. B. Adoue is president.

A company with a capital stock of \$150,000 will be formed in Charleston, S. C., for the erection of a cotton mill, and Mr. Henry P. Williams is the prime mover in the new enterprise. Messrs. John F. Ficken, Waring P. Carington, Morris Israel, L. D. Simonds, George A. Wagener, James F. Redding and Henry P. Williams have applied for a charter for the company.

The Monroe Cotton Mills, of Monroe, N. C., O. P. Heath, of Charlotte, N. C., president, has about decided to double the capacity of the plant. Capt. W. C. Heath, the secretary of the company, will at once make a trip to the Northern shops to place contracts for the machinery. The mill has 5000 spindles in place now, and is operating twenty-three hours out of twenty-four, being full up with orders.

There is a movement afoot at Beaufort, S. C., for the erection of a cotton mill, and a \$100,000 company is proposed for operating same. The Commercial Club is taking an active interest in the matter, and has succeeded in obtaining subscriptions for over \$27,000 worth of the stock in a few days' notice. Messrs. C. C. Townsend, T. B. Rathbone, George Holmes and J. W. Scheper are also interested.

The new company which Dr. W. C. Black, of Shelby, N. C., is organizing to build a mill on Broad river at the Durham Shoals has elected directors. They are Dr. W. C. Black, of Greenville, N. C.; E. B. Hamrick, of Metal, N. C.; Henry Jenkins, of Perry, N. C.; L. A. Geddes, of Shelby, N. C., and E. R. Cash, of Gaffney, S. C. The capital stock is \$200,000, and nearly all of it has been subscribed. Work on plant is to commence in the near future.

The Cedartown Cotton Manufacturing Co., of Cedartown, Ga., which was formed last fall to take charge of the plant at Cedartown, is now fully equipped with everything except the spinning machinery. This latter has been ordered through Mr. C. E. Riley, of Boston, Mass., and is expected to arrive at any time. The company states that when its entire outfit is in operation it intends to make the best hosiery yarn on the market. Mr. J. Wright Adamson is secretary.

Messrs. Stoddard, Haserick, Richards & Co., importers of textile machinery, Boston, are filling a large number of orders for machinery and card clothing for Southern cotton mills. They are now putting in fifty-five cards and a lot of drawing and speeders at the Columbia Mills, Columbia, S. C., and will shortly deliver cardroom machinery for Southern cotton mills at Bessemer City, N. C. They are filling in addition to this a number of orders for other mills throughout the South.

Capt. J. H. Montgomery, president of the Spartan Mill, of Spartanburg, S. C., noted last week as awarding contracts for the equipment for the company's new \$500,000 mill, has now decided to install 1360 looms from Messrs. George Draper & Sons, of Hopedale, Mass. The pickers, self-feeders and cotton-openers will be furnished by the Kitson Machine Co., of Lowell, Mass., and the revolving flat cards and frames will, as reported in our last issue, be supplied by the Pettie Machine Works, of Newton Upper Falls, Mass. The mill's spindles will number 40,000.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

The Market for Cottonseed Products.

New York, January 21.

While no material improvement in values may be noted, a distinctly better tone pervades the cotton-oil market. The growing interest in compound lard, as a result of the upward tendency of the unmixed product, is the primary factor in bringing about the improvement referred to. In the event of hog supplies being reduced to an appreciable extent by reason of the prevalence of hog cholera in recent months, the position will be still further emphasized in its favoring aspect toward cotton oil. In support of this theory may be cited the fact that higher prices and reduced hog supplies are current features of the Western markets. The indications, therefore, unmistakably point to higher prices for oil, thus confirming the bullish views uniformly advanced by holders throughout the recent period of uncertainty. The home and export demand present no noteworthy feature. The prospective demand for American refined oil for Southern Europe would appear more encouraging, judged from the following report cabled from Leghorn: "As the yield of the olive crop is far from being as large as was expected, the market for olive oil rules strong." The slump in prices of Egyptian cottonseed in England has had the effect of still further lowering oil values. Liverpool spot crude is now quoted 14s. 6d., and refined 17s. The low values herewith quoted—which have the effect of retarding the American export trade to a material extent—would lead to the belief that a substantial improvement of the situation must be brought about by compound-lard developments rather than from foreign demands. Substantial oil holdings in the South cannot be touched at current figures, while the quantity on offer is of a limited character. Stocks in refiners' hands are light, the increasing enquiries for bulk crude emphasizing the fact. January lard is quoted at 5.90 cents, while May lard, Chicago, rules at 6 cents and July 5.02½ cents. Compound lard is quoted at 4¼ to 5 cents. Receipts have declined in volume, while stocks continue to accumulate. Exports have fallen to 1400 barrels. Sales for the week comprise several hundred barrels of prime crude at 24¼ to 24½ cents, lots aggregating 2000 barrels prime yellow at 28 to 28½ cents, together with 2000 barrels to arrive at 28½ to 29 cents, 600 barrels choice yellow at 29 cents, 500 barrels of off-grade yellow at 27½ to 28 cents, and 320 barrels white oil at 32 cents. Prices current are as follows: Prime crude, 24½ to 25½ cents; at the mills, 20½ to 22½ cents; crude, off quality, 23¼ to 24 cents; prime summer yellow, 28½ to 29 cents; butter oil, 30 to 31 cents; off-grade yellow, 27½ to 28 cents; white oil, 31 to 32 cents, and soap stock, 7½c. per pound.

Cake and Meal.—The demand has weakened for home and foreign consumption, while prices are nominally quoted at previous figures. American decorticated cake is quotably lower on the foreign markets. Liverpool quotes irregular to prime soft cake £5 to £5 6s. 3d. Stocks of crude abroad are light, however, and a good demand may be expected early in the ensuing month. Exports for the week have been practically at a standstill, while no receipts are reported at the local or Eastern markets.

Cottonseed-Oil Notes.

The immense hullhouse of the National

Cottonseed Oil Mill at Denison, Texas, was destroyed by fire on the 18th inst.; loss about \$10,000.

Bullock County Manufacturing Co., Union Springs, Ala.: "The supply of seed in our section has been exhausted and there are none in the county. Farmers are now buying from us to plant. I think our mill and all near me will do well to run on half time this season; in fact, most of the mills are shut down now. We have no oil or meal on hand; sold as fast as made."

The market for cottonseed products in Houston, Texas, was reported steadier last week, with prices for oil one-half to one cent higher per gallon, while cake and meal scored an advance of fifty cents a ton. Linters are unchanged, while soap stocks show an advance in sympathy with oil. The following quotations were posted on the Exchange on the 15th inst.: Choice crude oil for butter oil, 20 to 21 cents; strictly prime crude oil, 20 to 21 cents; prime crude, 20 to 20½ cents; prime butter oil in barrels, 28 cents, and prime summer-yellow oil, 23 cents; prime cottonseed cake and meal, \$12.50 to \$14 per short ton f. o. b. mill at interior points, according to location; linters—A, Houston delivery and classification, 3¼ to 3½ cents per pound; soap stocks, foots from refined oil, .40 bid, .60 asked. Market closed firm.

Another Great Southern Resort Hotel.

The town of Miami, Fla., on the Florida East Coast Line extension of the Flagler Railroad system, is the scene of a remarkable activity in building, and is to become another winter resort in the State. A dispatch states that Mr. Henry M. Flagler has determined to erect one of the finest hotels in the South at this point. The main building alone is to be 750 feet long and 135 feet wide, not including the wings. It is to be named the Royal Palm, and will be constructed of wood and stone and contain all the latest ideas in hotel construction. In size it will be second only to the famous Ponce de Leon.

In addition to the hotel, arrangements are being made to construct two ice factories, a bank building, an Episcopal church and several stores. Steamer lines have been established between Palm Beach and Key West and the town.

The stockholders of the Afro-Alabama Cotton Mill Co., of Anniston, Ala., held their annual meeting last week. The following were added to the board of directors: N. Whight Cuney, of Texas; P. B. S. Pinchback, of Washington, D. C.; T. Thomas Fortune, of New York, and James M. Dawson, of Anniston. The officers were re-elected, William J. Stevens being president, and W. J. Crook, secretary. This company is composed principally of colored men, and they intend to erect a mill to be operated by colored hands exclusively. Work on the buildings is expected to commence at an early day.

The stockholders of the Lynchburg Cotton Mill Co., of Lynchburg, Va., held their annual meeting last week, the attendance being very full. The annual report of the president showed that the business of the company is in the most flourishing condition. A semi-annual dividend of 4 per cent. was declared recently by the company, quite an amount charged off for depreciation and a large balance carried to the surplus. The stockholders have re-elected the same officers who have served for some time past: Max Guggenheimer, president; William Hurt, vice-president, and Herbert L. Moorman, secretary-treasurer. It was decided to erect an addition to the plant in which to install more looms, and to put in an electric plant for lighting the buildings.

MECHANICAL.

Boiler Usages in Court.

A matter of great interest to power-users was passed on by the courts in the recent case of the Philadelphia Edison Electric Light Co. vs. the Abendroth & Root Manufacturing Co. Prominence is given by the circumstances of the controversy to the questions of boiler construction, the effect of using bad feed-water, the danger of excessive firing, the use of what might be called an unreasonable forced blast pressure, and the excessive employment of cleansing chemicals (made necessary by the bad quality of feed-water used).

The Philadelphia Company brought suit against the Abendroth & Root Manufacturing Co., of New York city, to recover \$34,000, claimed to have been expended in remedying defects in boilers furnished by the latter. A countersuit was put in by this company against the Philadelphia concern for money claimed as due on the order for boilers and for additional material furnished.

The Abendroth & Root Manufacturing Co. is the manufacturer of the well-known Root water-tube boiler, and between the years 1880 and 1891 it furnished the Philadelphia Edison Electric Light Co. with about 3500 horse-power of boilers, these boilers being supplied on four different contracts, each of which followed the other at short intervals.

Soon after these boilers were erected and in operation in the Philadelphia Edison plant, a series of troubles followed, which finally culminated in a fatal accident. This brought the matter into the Coroner's Court in Philadelphia, where, after a careful investigation by a jury of experts, a verdict was rendered acquitting the Abendroth & Root Manufacturing Co. and holding the Philadelphia Edison Electric Light Co. responsible.

Testimony was presented in the trial of the suit to show that the best obtainable material had been used in the construction of the boilers. In this connection it is interesting to note that the greatest number of breaks occurring in these Edison boilers were reported to be in the item of bolts; and as it is a natural conclusion that the greatest breakage will occur at the weakest point, it was necessary to establish by evidence the fact that these bolts were equal, if not superior, to anything to be found in the market. When these bolts broke, in almost every instance a curious phenomenon occurred. At the point of fracture, the metal, instead of being contracted to a smaller area than that of the bolt itself, retained the original size and area, showing no contraction whatever, but breaking sharply and squarely in a similar manner to a pipe-stem.

This caused the question to be raised as to whether crystallization had occurred, and to determine this point many of these bolts were taken to a steam hammer and flattened out cold to less than one-quarter of an inch in thickness. In every instance the flattening was done without the slightest show of fracture running up into the body of the bolt, whereas if crystallization had taken place at the point of rupture the metal would necessarily show brittleness and breakage similar to the action of a piece of cast iron similarly treated. Another test applied to many of these bolts was to bend them double when cold so that the two ends met, and this also proved the excellence of the quality of the bolts. In order to show that no effort had been spared to improve the quality of the material used, the Abendroth & Root Manufacturing Co. had other bolts, made of the best rivet iron, substituted in the place of the original ones, but all such

bolts were fractured in identically the same manner, and a still further trial was made with steel bolts, which were affected with the same results. In order to make this breaking point test still stronger, three-quarter-inch bolts were substituted for the five-eighth-inch bolts, but with no better results. Beyond this, the shape of the head, and also the shape of the lug which received the head of the bolts, were changed in every conceivable way, but all to no avail, as the fracture of bolts continued in this almost unaccountable manner, whereas fracture in the other parts of the boiler was very infrequent, indeed.

An allegation of bad workmanship was answered by presenting photographs of the tools which were in use in the manufacture of the boilers, and proving that these same tools had been used in manufacturing all of the boilers supplied to the Philadelphia Edison Company. As these tools are made to produce interchangeable parts, with cutters and other working details fixed immovably in the same position and adjusted to such positions by sets of templates carefully standardized, and further, as the positions of the metal parts of the boilers were fixed from working points produced in the casting, it was found impossible for the plaintiff to show that such workmanship could be other than that produced in the many boilers manufactured by the Abendroth & Root Manufacturing Co. Moreover, as such trouble as was experienced in the Philadelphia Edison station has never been known in other plants, it stood to reason that with workmanship and materials the same, all the troubles at the Edison station must have been due to local conditions existing in the plant itself.

Evidence was presented to show that the accidents were due entirely to the unreasonable handling of the boilers by the Edison Company, with the object of forcing these boilers far beyond their rated capacity, sometimes exceeding this rating by as much as 100 per cent. and over. It was testified that the Edison Company employed unskilled labor, and that these employees had instructions to keep steam up to the required pressure, irrespective of any demands that might be made on the boilers, and that the whole idea was to keep the lights going which the Edison Company had contracted to supply, without regard to the personal safety of the attendants or capacity of the boilers.

One of the very important matters brought to light in this case, and acknowledged by the Edison Company, was the use of extremely bad feed-water. It seems that the Edison Company sank a well beneath their station, and this was the only water they used to supply their station. This water, as was shown by the analysis presented during the trial, contained not a small amount of sewage, and ran thirty-four grains of impurities to the U. S. gallon, almost 8 per cent. of these impurities being proved to be sulphate of lime, while salt existed in appreciable quantities, and also a number of nitrates and ammoniacal salts. In order to counteract the bad effects from this water, no small amount of chemicals was used. These were changed at times, and finally the Edison Company seemed to settle down on the use of catechu, or what is more properly known in chemistry as Catechu, which contains a considerable quantity of tannic acid. In the storage tank located above the boilers large quantities of caustic soda were also put in the water, making so strong a solution that water dripping from it would take the hair off of the horses that passed beneath it, also inflicting serious burns upon the workmen who were so unfortunate as to catch a sprinkle. The result of the use

of this bad feed-water was naturally shown in the collection of a large amount of scale in the tubes, varying in thickness from five-sixteenths of an inch to one inch, and thereby closing down very materially the area of the tube opening. The chemicals used attacked the metal parts of the boiler and oozed through the joints thus attacked so as to form incrustations, which had at times almost entirely covered the bolts and bends. This incrustation proved so hard that the workmen were obliged to use a hammer and chisel to remove it. This state of affairs caused a rigidity of parts which were designed to be flexible, and it also caused the unnecessary burning out of many of the tubes.

Another very important point established by the evidence was that an excessive forced draft was used in order to drive the boilers to the unreasonable extent to which they were used, and evidence showed that this draft was sufficient at times to support a column of water from three to four inches in height.

Davis & Egan Machine Tool Co.

It was recorded in these columns lately that Mr. Chas. Davis, president of the Lodge & Davis Machine Tool Co.; Mr. Thos. P. Egan, president of the A. J. Fay & Egan Co.; Mr. Robert Laidlaw, president of the Laidlaw-Dunn-Gordon Co., and Mr. Thos. McDougal had purchased the entire stock held by the Lodge interest in the Lodge & Davis Machine Tool Co. Mr. Chas. Davis and Mr. Thos. P. Egan are now in Chicago for the purpose of combining the interests operated by each company in that city.

They have heretofore been strong competitors, and operated the two largest machinery houses in Chicago. Their stores in other cities will also be combined at an early date. By the consolidation of these three companies one of the strongest concerns in the world is formed. The joint

It proposes to largely increase the capacity of its plant, and to add on such new lines of machine tools as will enable the company to furnish the entire shop equipment, from the smallest to the largest machines.

The works are being operated day and night, and an additional force of seventy-five men will be put on within the next ten days.

The new company controls unlimited capital, has no indebtedness or preferred stock and will rank as one of Cincinnati's leading industries.

The officers of the company are Mr. Chas. Davis, president; Mr. W. H. Burton, vice-president, and B. B. Quillen, secretary.

Electro Magnetic Separator.

A useful machine for separating scrap iron from bones has been lately placed on the market by C. H. Dempwolf & Co., of York, Pa., manufacturers of fertilizer machinery. The presence of all kind of scrap is very annoying in grinding bones, and often causes serious damage to mills, necessitating repairs and delay. This iron picker, which is illustrated herewith, consists of an iron box or trough, hung at an incline in an iron frame. An oscillating motion is imparted to the trough by a crankshaft and pulley. The lower part of the trough contains a powerful magnetic field, and as the bones which are thrown in the trough pass on the mill, pieces of iron, large or small, are firmly held until removed by the operator. For the purpose of releasing the scraps of iron there is a knife switch attached to the side of the frame, and when this is opened the pieces may be removed.

The magnetic field is excited by connecting with an ordinary lamp socket, or a separate small dynamo may be employed for this purpose.

The machine does very effective work.



ELECTRO MAGNETIC SEPARATOR.

companies now employ over 2000 men.

The Davis & Egan Machine Tool Co. will continue to manufacture a high grade of tools for the production of locomotives and stationary engines, electric dynamos and motors, sewing machines, bicycles, mining and agricultural machinery, wood-working machinery, steam pumps, printing presses, etc.

holding securely the smallest tack or nail, as well as nuts, spikes and other pieces of iron that usually occur in bones, especially in the stock handled by junk dealers.

Its construction is rather simple for a machine so useful to the fertilizer manufacturer, and the price at which it is sold, with or without dynamo, seems to justify its general introduction.

New Hand Planer and Jointer.

We present herewith a new hand planer and jointer manufactured by the E. & B. Holmes Machinery Co., of Buffalo, N. Y. This machine contains many new and valuable features which will prove of interest to our readers.

It will be noticed that heavy-cored frame has a broad triangular base, which gives three points of bearing on the floor.

braced, so that the surfaces will remain absolutely true at all times. Steel lips, which form the edges of the table, are brought very close to the cutters, thereby giving the smallest possible opening. Both tables can be drawn away from the cutterhead, giving free access to the cutters for the purpose of sharpening and setting the same. The cutterhead is a solid crucible-steel forging, slotted on four sides and provided with special steel

and can be easily and quickly adjusted to any desired angle. It is carried by the rear table in order to permit the front table to be lowered for heavy cuts. The safety guard which covers that portion of the cutterheads not in use is hinged to the rear table, and then, when not required in use, remains suspended at the side of the machine, and is therefore not liable to be lost or mislaid.

Spring attachments are furnished, when

loose pulley, and should run 850 revolutions per minute. Tight and loose pulleys are ten inches diameter, six and one-half inches face.

The machine throughout, both in material and workmanship, is first-class and warranted in every respect.

A New Hardwood Flooring Machine.

A new five-head planing and matching machine for dressing hardwood lumber, constructed by the Glen Cove Machine Co., of Brooklyn, N. Y., and No. 50 Broadway, New York city, is illustrated herewith.

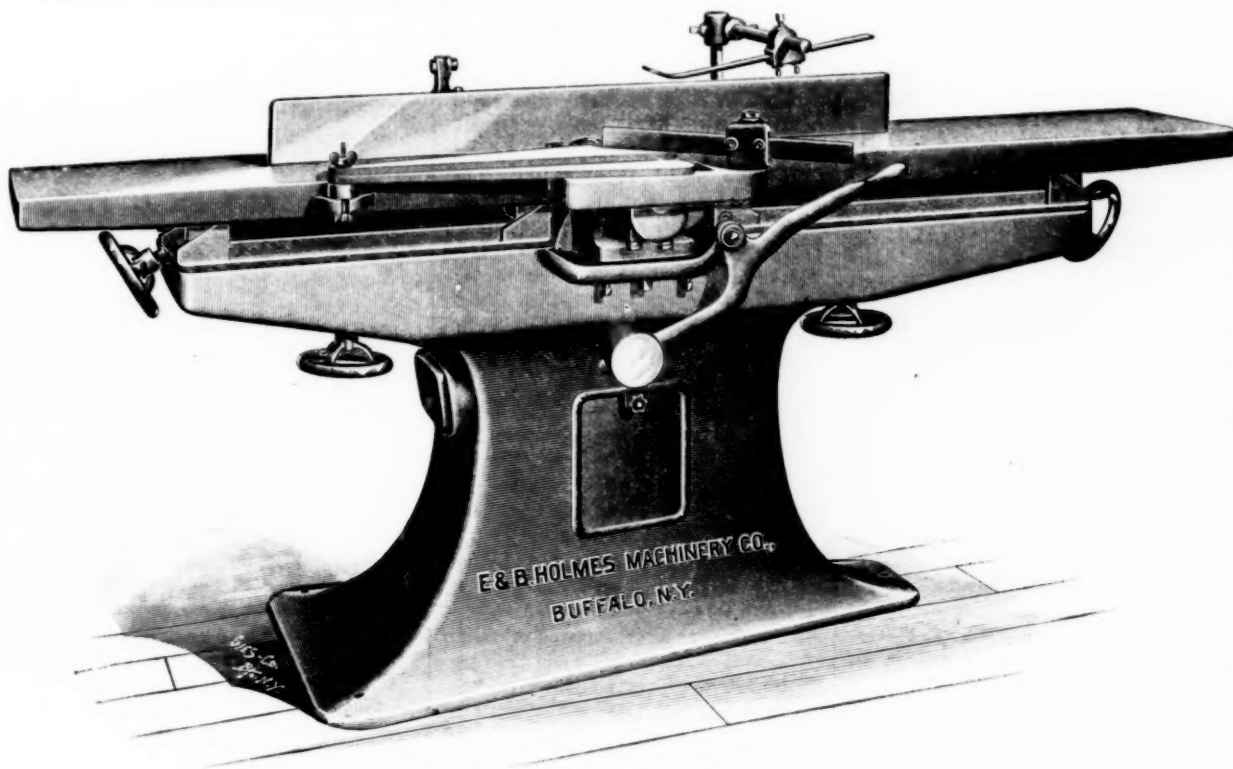
Concise stated, the arrangement is such that the board is firmly grasped by powerful feed rolls, which grip it securely until the upper and under surfaces and the matching have been accomplished. The board then passes on to the fifth head, which is a top cutterhead at the extreme end of the machine.

This is a light cutterhead of a small cutting circle and high speed, which, by a very light cut, dresses off any imperfections or indentations that the surface of the board may have received in its passage through the machine, thus delivering it in a highly finished and perfectly smooth condition.

The under cutterhead is but six inches from the first top cutterhead, and the side heads are but fourteen inches from the bottom head, thus bringing the entire cutting operation, with the exception of the light-dressing fifth head, in the short space of twenty inches, while the board is positively held with one continuous pressure by the unyielding but adjustable pressure-bars, guides and shoes, from the time it has passed the first top cutterhead until it has passed the side heads. It then, under suitable pressure, goes on to the fifth head, which gives it the final finish.

Should the machine be wanted for work that does not require the fifth head, it may be left off and its place supplied by a carrying-out table.

The machine is heavy, strong and convenient to operate. It has eight feed rolls eight inches in diameter. It is provided with the screw feed, parallel hoist,



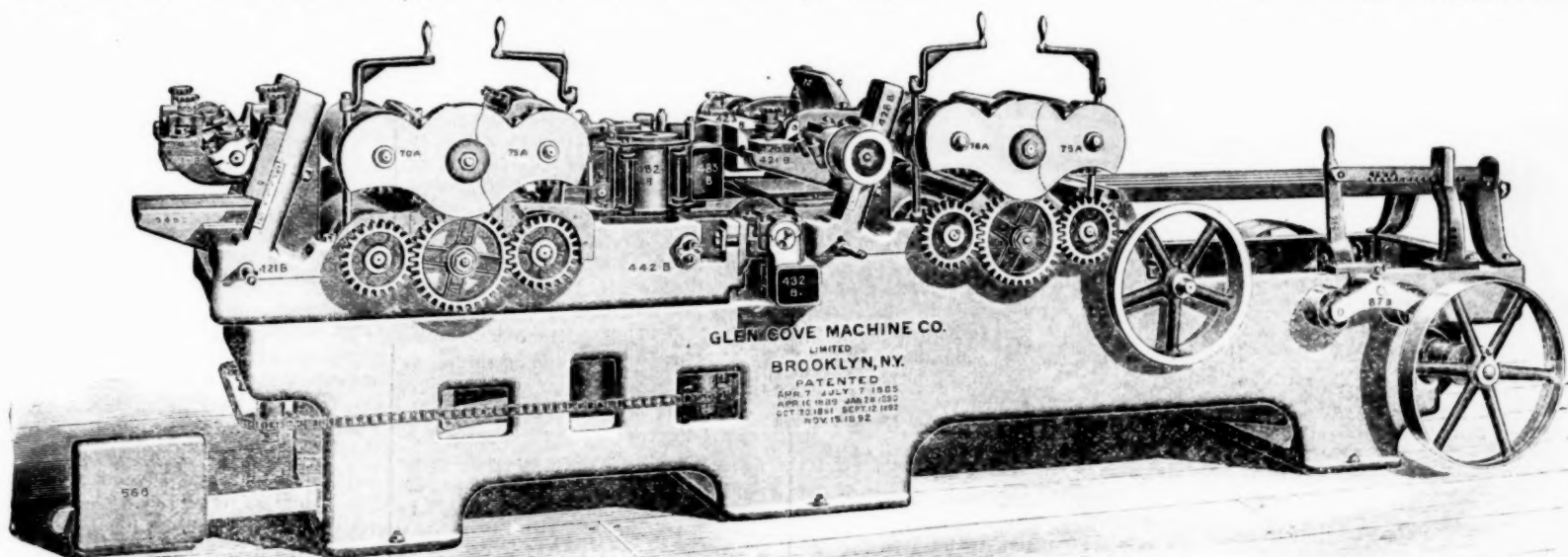
NEW HAND PLANER AND JOINTER.

The triangular base being narrow at the working end of the machine, enables the operator to stand closely to the machine without danger of treading upon the flange.

Table carriages are accurately fitted to the planed top of the main frame and are provided with long inclined ways, to which the tables are securely gibbed, so that perfect alignment is maintained. At all times, while the tables are raised and

bolts for holding the cutters securely in place, and while the circle described by the cutters is as small as possible, the journals are unusually large, the rear one being two inches in diameter and of ample length. The front bearing is provided with a flat steel cap, which permits rabbetting to be done seven-eighths of an inch in depth and of any desired width, the stock being supported by a projecting arm secured to the front table

desired, by which molding of all kinds can be worked to good advantage. Means are provided with which hollow glue joints can be made on this machine as readily as straight ones. It is capable of doing a large range of work, such as squaring, smoothing, taking out of wind, glue jointing, beveling, chamfering, rabbetting, molding, tonguing and grooving, beading, cornering, cross-graining, tenoning, etc.



NEW HARDWOOD FLOORING MACHINE.

lowered by heavy screws in the usual manner, the front table is provided with an independent lever movement by which the depth of the cut can be instantly varied to suit the class of work being done. This lever is counterbalanced and is provided with a friction grip, so that the table is firmly held in the position to which it is placed. The tables are seven and one-half feet in length, of ample thickness, and are heavily ribbed and

and extending to the rear one. Both bearings are self-oiling and are capable of adjustment without the use of liners or wedges. The bearings are yoked together and are therefore always in line, and the downward extending spout affords a convenient means of attaching a pipe for the purpose of removing the shavings in the usual manner.

The adjustment bevel gage is constructed in the most substantial manner

With each machine is furnished a special device, by which the cutting edges of the knives are kept true with the rear table and with each other. This is an important feature, for the reason that it at once improves the quality and increases the quantity of the work turned out.

The countershaft, which is always included, unless otherwise ordered, is fitted with an improved self-oiling differential

side-head pressure shoes and other improved features provided by this company.

The Business Men's Club of San Antonio has elected Mr. J. N. Brown as president, and Edward Chamberlain and August Briam, vice-presidents.

The Mobile, the largest steamship which ever entered Mobile harbor, has reached that port to load cotton for Liverpool. She is of 5400 tons burden.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Lumber Directory.

Readers of the Manufacturers' Record who may be in the market for lumber of any description are recommended to the directory of Southern lumber manufacturers and dealers which appears among the advertising pages.

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,

Baltimore, Md., January 23.

In the local lumber market the volume of business has been fairly active in certain lines of material, but it is yet too early in the year to look for much activity. Commission men and manufacturers report sales of kiln-dried yellow pine as expanding in volume, and the demand from out-of-town buyers and for export so far this month is more satisfactory. The local demand for air-dried yellow pine is very light, and both planing mills and box factories are buying very little stock at the moment. The demand for white pine is improving, and prices are generally steady, with stocks ample for all requirements. There is no business of any importance in cypress, although values hold very steady at quotations. In hardwoods there is very little improvement to record, and the local demand is light, the bulk of transactions being with out-of-town buyers. The export business is a shade better, under more cheerful advices from the markets in Europe. Shipments, however, are light, and exporters are cautious in their movements, sending out only on orders, and few consignments are reported. The demand for dry oak from manufacturers is improving, and values are firm, with stocks light. Poplar, walnut and other hardwoods are in light request and prices unchanged.

The following list represents the prices current at this date:

[The quotations for yellow pine are for cargo lots, and for all hardwoods the figures indicate values for choice cut lots.]

VIRGINIA AND NORTH CAROLINA PINE		
5-4x10 No. 2, kiln dried.....	\$16 00	18 00
5-4x12 No. 2, kiln dried.....	17 50	18 50
4-4x10 No. 1, kiln dried.....	16 50	17 50
4-4x12 No. 1, kiln dried.....	17 00	17 50
4-4 nar. edge, No. 1, kiln dried.....	13 00	14 00
4-4 wide edge, No. 1, kiln d'd.....	18 00	19 00
6-4x10 & 12, No. 1, kiln dried.....	23 00	24 00
4-4 No. 1 edge floor, air dried.....	13 50	14 50
4-4 No. 2 edge floor, air dried.....	10 50	11 50
4-4 No. 1 12-in. stock, air dried.....	14 50	15 50
4-4 No. 2 12-in. stock.....	12 50	13 50
4-4 edge box or rough wide.....	7 50	8 50
4-4 edge box do. (ord. widths).....	7 00	8 00
4-4 edge box do. (narrow).....	6 50	7 50
4-4 12-inch or rough wide.....	9 50	10 00
3/4 narrow edge.....	6 50	7 50
3/4 wide.....	7 50	8 50
3/4x10-inch.....	8 00	9 00
Small joists, 2 1/2-12, 14 and 16 long.....	8 50	9 50
Large joists, 3-16 long & up.....	9 50	10 50
Scantling, 2x3-16 and up.....	8 50	9 50

WHITE PINE.

1st and 2d clear, 4-4, 5-4, 6-4 & 8-4.....	48 50	50 50
3d clear, 4-4, 5-4, 6-4 and 8-4.....	43 50	44 50
Good edge culls.....	14 50	15 50
Good stock.....	16 50	17 50

CYPRESS.

4-4x6, No. 1.....	20 50	21 50
4-4x6, No. 2.....	14 00	15 00
4-4x6, 16 feet, fencing.....	12 00	13 00
4-4x6, rough.....	9 00	9 50
4-4 rough edge.....	9 00	9 50
4-4 edge, No. 1.....	18 50	19 50
4-4 edge, No. 2.....	12 00	13 00
Gulf, 4-4, Nos. 1 and 2.....	28 50	30 50
Gulf, 6-4, Nos. 1 and 2.....	31 50	32 50

HARDWOODS—WALNUT.

5-8, Nos. 1 and 2.....	85 00	95 00
4-4, Nos. 1 and 2.....	80 00	90 00
5-4, 6-4 and 8-4.....	85 00	95 00
Newell stuff, clear of heart.....	85 00	100 00
Culls.....	20 00	30 00

OAK.

Cabinet, white and red, Southern, plain-sawn and good, 1 and 2, 8 inches and up, 12 to 16 feet long, 4-4.....	29 00	33 00
Quartered white, Western, 1 and 2 quality, all figured, 6 inches and up wide, 4-4.....	53 00	55 00
Culls.....	10 00	15 00

POPLAR.

Nos. 1 and 2, 5-8.....	24 50	25 50
Nos. 1 and 2, 4-4.....	28 00	30 00
Nos. 1 and 2, 6 and 8-4.....	32 50	33 50
Culls.....	13 00	16 00

SHINGLES.

Cypr., No. 1 h'rts, sawed, 6x20.....	7 25	7 75
No. 1 saps, sawed, 6x20.....	5 50	6 50
No. 1 hearts, shaved, 6x20.....	6 50	7 50
No. 1 saps, shaved, 6x20.....	5 25	5 50

LATHS.

White pine.....	2 70	2 75
Spruce.....	2 15	2 25
Cypress.....	2 15	2 25

Norfolk.

[From our own Correspondent.]

Norfolk, Va., January 20.

The general situation at the opening of the new year in nearly every branch of the lumber industry shows a marked improvement over that of a year ago. While there is not any decided activity in the market, there is a strong undertone in values, and the indications are that a pronounced demand will set in during February or March. The holiday season being over and the business of the old year having been closed, manufacturers and others engaged in the industry are now making arrangements for future business. Locally there is everything to encourage dealers, and the demand for material is likely this year to exceed that of any previous one in the history of the port. All woodworking industries are generally prospering, and at the moment have all the business they can manage. Planing mills are generally well supplied with orders, which show a slight improvement in prices. Trade has been somewhat restricted by the late cold weather, and the movement of vessels in the North Carolina trade has been interfered with by ice, but at present there is a clear course for arriving and departing vessels through the sounds. Receipts of lumber from the mills in the interior are improving, while local mills are all busy sawing and stocks accumulating in order to be ready for any prompt demand that may set in. There is no excess of kiln-dried lumber on hand, and prices are generally firm, with a scarcity of some grades. Of air-dried lumber there is a large stock to select from, and values are barely steady, while in some cases large lots have been sold below quoted figures, so that the margin of profit for the manufacturer is extremely narrow. From statistics furnished by Mr. Samuel P. Borum, secretary and superintendent of the Chamber of Commerce, some extent of the lumber trade of the port may be learned by a reference to the receipts for 1895. Of wood and its products the following figures are given: Logs, 115,026,671 feet; lumber, 324,863,267 feet; staves, 3,552,779 M; shingles, 38,575,659 M; railroad ties, 111,791 M. The collector of customs reports the value of exports of logs and lumber at \$422,183, and staves and headings at \$176,038. The present year bids fair to exceed the movement of lumber in 1895, as at present the inquiry for lumber is quite pronounced, and from the North and East and other points there is an active inquiry, both for prompt and future delivery of material. Manufacturers are more disposed to co-operate and favor organization, while the opinion prevails that future prices will be higher and firmly maintained at any advance.

Charleston.

[From our own Correspondent.]

Charleston, S. C., January 20.

The movement throughout the general market for lumber and other wood products is fairly active, with a moderate demand and stocks generally ample for all requirements. In the various milling sections operations have been somewhat restricted by the low stage of water in the upper rivers and streams, but a recent rain has enabled millmen to get a supply of timber. The crossie industry is at present quite active, and there is a good demand at fair prices, while several large sales have been made during the past week for future delivery. With regard to prices of lumber, the various grades and dimensions hold very steady, and values are well maintained throughout the general list. The following prices are current at this date: Merchantable lumber,

\$14 to \$16 for city-sawn, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad, \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. Shingles are in fair demand at \$5 to \$7. Among the clearances of lumber cargoes during the past week the following vessels are reported: For New York, schooner J. H. Parker with 400,000 feet, and steamer Seminole with 50,000 feet. The schooner Harry B. Ritter cleared for Philadelphia with 450,000 feet and the schooner Mary Jenness for Boston with 300,000 feet. The total shipments of lumber from this port since September 1, 1895, amounts to 25,025,664 feet to domestic ports and 838,000 to foreign, making a total of 25,863,664 feet, against 23,703,654 feet. Yellow-pine lumber freights are firm, but not active. Rates to New York are quoted at \$4.62 1/2 to \$5, and proportionately for ties. A charter was reported in New York during the week of a schooner, 575 tons, from Charleston to Philadelphia with oak ties at 19 cents.

Pensacola.

[From our own Correspondent.]

Pensacola, Fla., January 20.

The lumber and timber market at this port is active, and so far during the present month there has been a large volume of business in nearly every avenue of this industry. Exporters are now fully organized, and under the present conditions the market will be maintained on a firm basis, so that with the active demand prevailing prices will harden. For some time past the low stage of water in the rivers and other streams in Southeast Alabama have prevented the shipment of rafts of timber to mills and ports of export, and stocks have been light and timber scarce. A rise in the Escambia at Brewton, Ala., has put the river in good condition for rafting, and receipts of timber are much better. There is a good volume of business in lumber, and mills are actively employed working up to their full capacity to get out their orders. The demand from South America and the United Kingdom and Continent is active, and a number of vessels are now loading and will clear during the present month. Among the clearances during the past week were the bark Cambria for Rio Janeiro with 900,000 feet of lumber; bark Active for Fecamp with 28,239 cubic feet of sawn timber and 187,000 feet of lumber; bark Finland for Rouen with 26,398 cubic feet of sawn timber and 125,000 feet of lumber. For Genoa bark Modestino with 288,000 feet of lumber and bark Blandino with 14,000 cubic feet of sawn timber and 380,000 feet of lumber. The barkentine Granada cleared with 479,000 feet of lumber for Rio Janeiro. Lumber and timber freights are very steady, with rates unchanged. For United Kingdom and Continent, £4 10s. to £4 17s. 6d., according to size; River Platte, \$11, and Rio Janeiro, \$14.50 to \$15, according to size. Coastwise freights between Baltimore and Boston \$5.25 to \$6. Charters reported during the week in New York are as follows: A German ship, 719 tons, from Pensacola to the United Kingdom or Continent with sawn timber on private terms, chartered abroad; a Swedish bark, 714 tons, from Pensacola to Bristol channel with sawn timber at 95s., and a Norwegian bark, 1226 tons, from Ship Island to the United Kingdom, Continent, Havre or Antwerp with sawn or hewn timber at 92s. 6d. and 29s., respectively.

Mobile.

[From our own Correspondent.]

Mobile, Ala., January 20.

The magnitude of the shipping interests of this port at present is worthy of note, and the new year has opened with a remarkable activity in marine circles. It is stated that during the present month

there has been a larger movement of vessels than ever before in the history of the port. The demand for lumber and timber is now mostly from South and Central American ports. The movement in timber the past week has been quite active, and the market is firm, with a better prospect for export than for some time past. Sawn timber, when placed on the market, will bring 11 cents per cubic foot, 40-foot basis, and contracts are made at 11 to 11 1/2 cents basis. Cypress is in fair demand at 5 to 9 cents per cubic foot, and cedar is quoted at 20 to 30 cents per cubic foot. Saw logs delivered at mill \$5 to \$7 per 1000 cubic feet. Hewn timber is quoted at 12 cents on basis of 100 cubic feet, average B1 good, and contracts at 12 cents. Hewn oak 18 to 20 cents per cubic foot, and poplar to average twenty-two inches 12 cents per foot. The movement in lumber is active, and the demand constant, with prices very firm for all desirable material. Saw mills throughout this section of the State are all fully employed, and the recent rise in the upper streams has furnished mills with plenty of logs. During the past week the following vessels cleared from this port: Ship Revolving Light for Liverpool with 24,330 cubic feet of sawn timber and 2118 cubic feet of hewn and 27,769 feet of yellow-pine lumber; bark Dore for Algoa Bay, South Africa, with 53,658 cubic feet of sawn timber, and ship Stamboul with 932,470 feet of lumber for the same port. The bark Ringborne cleared for Shields, England, with 3710 cubic feet of sawn timber and 15,056 feet of lumber; steamer Norge for Port Natal, South Africa, with 10,844 cubic feet of sawn timber and 260,344 feet of lumber; bark Zefino for Buenos Ayres, South America, with 433,352 feet of lumber; schooner Normandy for New York with 410,000 feet of lumber; schooner Blomidon for Port au Prince, Hayti, with 151,300 feet of lumber, and steamer Condor for Belize, S. H., with 4000 feet. The total clearances of sawn timber from this port since September 1, 1895, amount to 1,352,095 cubic feet, and of hewn timber 324,831 cubic feet. The total shipments of lumber for the same period aggregate 24,443,987 superficial feet, against 23,582,496 feet last year. Freights are steady at unchanged rates. To the West Indies, \$5.50 to \$6, Spanish gold; River Platte, \$10.50 to \$11, American gold, and Mexico, \$7 to \$7.50. A New York charter is reported of a schooner, 374 tons, from this port to New York at \$5.50.

New Orleans.

[From our own Correspondent.]

New Orleans, La., January 20.

In nearly every department of the lumber industry there is a fairly active demand, and the volume of business shows considerable expansion since the opening of the new year. The outlook for yellow pine is said to be very promising, and with a perfect organization of interests among Southern lumbermen prices are better maintained than they have ever been in the history of the trade. The cypress mills are well supplied with orders, but during the holidays were shut down, taking account of stock and making the necessary repairs. At the meeting of the Southern Cypress Lumber Association last week there was a good attendance, and it seemed to be the sentiment of the meeting that there was a probability of an advance in the price of cypress lumber. The demand for this wood is constant, and a marked increase is expected in several weeks, while the market is in a more healthy condition than a year ago. The local sash, door and blind factories are fully employed, and building continues beyond the usual amount at this period of the season. Active preparations are being made for a large business in the

spring, and from the receipts of material the building trade will be lively. The following figures, by Secretary Dirmeyer, of the Mechanics, Dealers and Lumbermen's Exchange, give the receipts of building material since September 1, 1895: Lumber 43,789,100 feet, shingles 5,526,000, against 3,887,000 last year; bricks 17,654,000, against 10,551,670 last year, other material showing a great increase over the year 1894-95. In the real-estate market the year opens with some activity, and last sales at the Exchange indicate a good year for real-estate dealers. Sales by Messrs. Robinson & Underwood and others were at figures very encouraging to holders and speculators. The marine dry-dock was offered and sold, while the bidding was brisk, there being a number of competitors. The price realized was \$41,000. The Indiana Retail Lumber Dealers' Association arrived in the city on Saturday last, and took up their quarters at the Grunewald Hotel and the Pickwick. The party is a representative one, and includes the leading retail dealers of the State. They have been seeing the points of interest in the various States traversed by the Cincinnati, Hamilton & Dayton Railroad from Indianapolis to Cincinnati, the Cincinnati Southern to Chattanooga, the Alabama Great Southern and the New Orleans & Northeastern to this city. The Louisiana Cypress Lumber Co., McEwan & Murray, Limited, and the Ruddock Cypress Co., of this city, took charge of the party yesterday and tendered them a trip on the Mississippi river to Chalmette and along the front.

Beaumont.

[From our own Correspondent.]

Beaumont, Texas, January 18.

The demand for lumber in this section during the past week has fallen off to some extent, while shipments have shown some improvement. The inclemency of the weather throughout the State has restricted business to a great extent, and orders for dressed stock have not been as numerous as last week, while yard stocks are dull sale. The Beaumont Journal, in its weekly review of the market, says: "There has been no change in the condition of the market for the week just ended. An even, quiet demand from dealers and the receipt of a few timber bills of small size have been the monotonous features. The excitement over big bills has died out, and millmen are pursuing a course of quiet work preparatory to their annual meetings. There is a fair amount of sawing orders on the books, and a reasonably good call for yard stock. Prices are unchanged." Manufacturers generally are of the opinion that the latter part of the present month will usher in a spirited demand for lumber. The stockholders and directors of the Beaumont lumber companies will hold their regular annual meetings next week. The Long Manufacturing Co. will meet on Monday, the Texas Tram & Lumber Co. on Tuesday and the Reliance Lumber Co. on Thursday. The Beaumont Lumber Co. will hold its meeting on the 27th inst., and the Nona Mills Co. on the same date. The export trade is fairly active, and there are three vessels loading at Sabine Pass and others are expected to arrive as soon as charters are secured to take out the big bills of lumber recently placed there to go by water. The situation at Orange is not materially changed, and mills generally do not expect a very active market until the winter rains are over and much of the urgent spring farm work done. The Galveston News says: "There has been some inquiry for railroad material again this week, but it was too indefinite to lead to any very serious expectations." The Missouri, Kansas & Texas Railroad placed a large order with the

Lutcher & Moore Lumber Co., being for lumber for a large hotel to be built at Port Arthur. The L. Miller Shingle Co.'s mills are going on full time, turning out about 250,000 shingles per day.

Heavy Order for Railroad Ties.

A contract for 60,000 ties for the railroad to be constructed by the Kansas City, Pittsburg & Gulf from Beaumont, Texas, to Port Arthur, was placed on the 18th inst. with the Reliance, the Texas Tram and the Beaumont Lumber Companies, of Beaumont. The bill aggregates about 2,000,000 feet. This order for ties carries with it a demand for considerable other material.

Lumber Notes.

The Beaver Creek and Blackwater mills, near Davis, W. Va., are each cutting daily about 100,000 feet of lumber.

At Coleman, Texas, lumbermen report more sales in the last two months than in twenty months previous to November 15, 1895.

Messrs. Leutz Bros., of Orange Lake, Fla., have established a large saw-mill plant on the Gainesville & Gulf Railroad. They are sawing only hardwood, and the lumber shipped north to furniture factories.

The receipts of lumber at the port of New Orleans for the week ending the 16th inst. amounted to 1,592,000 feet, and since September 1 the receipts aggregate 43,789,100 feet, against 31,520,249 feet for the corresponding period last year.

W. T. Bradley, who represents a New York lumber export firm, is purchasing a large quantity of walnut logs in Central Kentucky for shipment to Germany. The logs are being trimmed and made ready for shipment at Richmond, Ky.

Work was begun last week at Wilmington, N. C., on the construction of a steam saw and planing mill. It is stated that Mr. Eugene V. Battzer, secretary of the Parmele-Eccleson Lumber Co., of Jacksonville, N. C., is the promoter of this new enterprise.

It is reported that a party of citizens of Dawson, Ga., are negotiating for the purchase of what is known as the old Eufaula Furniture and Variety Works, at Eufaula, Ala. The company intends to establish a large sash, door and blind and planing-mill plant.

Major W. S. Embrey, of Fredericksburg, Va., has just purchased on private terms a large body of land, with the timber thereon, situated near Chancellorsville, in Spottsylvania county. It contains 986 acres, and has 150,000 railroad ties on it, besides a large lot of walnut and other woods.

Articles of incorporation of the Tracey R. Thomas Company, of Prescott, Ark., were filed last week at Little Rock. The capital stock is placed at \$20,000. The incorporators are Tracey R. Thomas, Charles R. Thomas and O. B. Gorden. The company will deal in lumber and other merchandise.

Mr. O. B. Faubion will begin at once the erection of a saw-mill plant at Velasco, Texas, and will ship his first lumber within two months. Mr. Faubion has been for a number of years a large shipper of walnut, oak and ash to England and Germany. He will in future make Velasco the shipping point for all his material.

Since the opening of the new year the activity in lumber shipments at Fernandina, Fla., has been quite pronounced. Nearly a dozen vessels were loading cargoes of yellow pine on the 15th inst. for Northern and foreign markets. The Mallory steamship Rio Grande cleared on the 16th for New York with 180,000

shingles, 35,000 feet of lumber and other cargo.

The Gulf City Shingle Manufacturing Co., of Mobile, Ala., whose mill was recently destroyed by fire, will begin at once rebuilding its plant on the same site. The officers of the company are P. R. Tunstall, president, and T. T. Tunstall, secretary and treasurer. Mr. S. C. Dodge, Sr., of Mobile, and A. W. Bryant, of Stockton, are large stockholders.

Mr. P. S. Wilson, a prominent lumber investor from Uniontown, Pa., arrived in Crowley, La., last week, and Mr. E. C. Mosby, of New York, who represents an Ohio colony, also paid that town a visit. Mr. Mosby is looking for a tract of 10,000 acres for his colony. Both gentlemen will thoroughly investigate the advantages of Southwestern Louisiana.

The Southern Cypress Lumber Manufacturers' Association held its regular monthly meeting in New Orleans last week. A committee was appointed to meet in that city on the 25th to form specifications for a grade of finishing strips. The date of the annual meeting was fixed for February 13. The cypress manufacturers report that trade is very satisfactory and the outlook encouraging.

The schooners A. Denike and Anita Berwind arrived at Sabine Pass last week and the former will be loaded by the Consolidated Export Lumber Co., of Beaumont, Texas, and the latter by the Reliance Lumber Co. and the Consolidated, both destined for Tampico, Mexico. The Consolidated has also chartered the schooners Josephine and Isaac Moulton, each having a carrying capacity of 500,000 feet, to load for Mexico.

The Hilton & Dodge Altamaha cypress mills, at Brunswick, Ga., were shut down on the 18th inst. for four weeks for improvements in doubling its present capacity. The big mill on St. Simon's Island, recently converted into a cypress mill, is also shut down for improvements, which will be completed in three weeks. It is stated that these mills have orders ahead for cypress lumber sufficient to run four years without stopping.

The first big raft of logs, consisting of 2,250,000 feet of pine lumber, has been delivered to the large mill at Mitchell, Texas, owned by the Tyler Car & Lumber Co., by the T. J. Bonner Company, of Lufkin, Texas, contractors. Messrs. Bonner & Co. now have the Angelina river cleared of obstructions, and will deliver on contract 1,000,000 feet of pine logs to the mill per month. They also have a proposed contract for hardwood and ties.

Among the clearances from Brunswick, Ga., last week were the schooners Hattie Simpson for Perth Amboy, N. J., with 53,000 feet of lumber and 12,113 cross-ties, and Longfellow for Kingston, Jamaica, with 547,000 shingles. The American barkentine Henry Norwell cleared for New York with a cargo of lumber valued at \$4300. The Portuguese bark Caboverde sailed for San Antonio, C. V., with 181,000 feet of lumber and 30,000 shingles.

The East Texas and Louisiana Lumber Manufacturing Association met at Beaumont, Texas, last week. In the absence of President Rice and Vice-President Clark, Mr. W. T. Carter, of Borum, Texas, presided. The meeting was called for the purpose of considering the general lumber situation, and the discussion was confined almost exclusively to this subject. It was developed that about 40,000,000 feet of lumber was made in Louisiana last year, and not exceeding 500,000,000 in Texas, of which between 115,000,000 and 120,000,000 feet was made on the Sabine & East Texas road. Nothing was done beyond the considera-

tion of stocks on hand, prevailing prices and routine matters, and the association adjourned to meet in Houston on February 13.

At a meeting of the board of directors of the Mechanics, Dealers and Lumbermen's Exchange, held in New Orleans last week, the following resolution was adopted: "Resolved, That the Mechanics, Dealers and Lumbermen's Exchange this day indorse the resolutions adopted by the Vicksburg Waterways Convention, in favor of improving the waterways of the Ohio, Mississippi and Missouri valleys, and their tributaries, and urge upon Congress the necessity of making adequate appropriations for the improvement of these great trade arteries."

Shipments of lumber from Jacksonville, Fla., have been very active so far during the present month, and among the clearances last week were the following vessels: Clyde steamers Cherokee with 275,000 feet of lumber, 3500 cross-ties and 2300 bundles of shingles; Comanche with 400,000 feet of lumber, 4000 cross-ties and 2700 bundles of shingles, and Iroquois with 250,000 feet of lumber, 1100 cross-ties and 2000 bundles of shingles, all for New York. The schooner Effie cleared for Georgetown, Abaco, with 20,000 feet of lumber and 10,000 cypress shingles; schooner Sarah J. D. Ranson for Porto Rico with 311,000 feet of yellow-pine lumber, and schooner S. B. Hubbard for Georgetown, British Guiana, with 300,000 feet of yellow-pine lumber and 14,000 shingles in bulk.

Activity in Oil Development in Tennessee.

A dispatch from Chattanooga, Tenn., says:

"Great excitement still prevails in the Fentress county oilfields. News reached here today that the Cusack well has proved far superior to the Lacy well. The first well, drilled by a colonist named Strube, within one mile of Glen Mary, has proved a bonanza. Oil of the best quality possible was struck at a depth of 1400 feet, and rose to within 100 feet of the surface. The depot at Rugby road, on the Cincinnati Southern Railway, is blocked with machinery, casing, etc., and prospectors cover the field. The finding of oil near Glen Mary establishes the extent of the field, which is now found to be thirty miles wider than the Pennsylvania field. Leases are not for sale except at a very high premium, and agents are now covering the territory in all directions. The Standard Oil Co. now has nine wells, and private individuals and other corporations have about twice that number. The excitement is intense, but the Standard Oil Co. is using every endeavor to keep the facts from gaining publicity. The oil is found in a strata of white sand in the limestone."

The Black Warrior Lumber Co. has placed a line of coal barges to operate between Mobile and Tuscaloosa in carrying coal to Mobile. There are four barges, with a combined capacity of 1000 tons.

The Commercial Club of Augusta, Ga., has elected the following board of managers: W. E. Jackson, F. Foster, W. D'Antignac, F. E. Fleming, T. W. Alexander, J. J. Cohen, W. H. Barrett, Jr., J. B. Walker, B. H. Smith, Jr., and Z. W. Carwile.

A dispatch from Southern Pines, N. C., states that the Piney Woods Inn has been completed at that place. This hotel has been built by a company of New England people. Southern Pines has become noted as a resort for invalids, and as a section for fruit-growing.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record,
Baltimore, January 23.

During the past week the local phosphate market has shown some signs of improvement, and manufacturers are expected in the market at an early day to make their usual contracts. An unusual number of vessels have been chartered during the past thirty days, and the volume of business will, it is said, improve during February. In mining sections of South Carolina and Florida conditions are not materially changed. The market in Charleston is quiet and steady, with a fair domestic demand, while that for export is not improved. Crude rock is quoted \$2.75 delivered at mines; hot-air-dried, Ashley river along-side vessel, \$3.10; city alongside vessel \$3.25, and ground rock in bulk \$5. In the land-rock districts of Florida phosphate development is quiet, and quotations are about the same as last reported; land pebble $8\frac{1}{2}$ to 9 cents a unit delivered at Eastern ports. Land rock is quoted at 6 to 6 $\frac{1}{2}$ ¢, and pebble 5 $\frac{1}{2}$ ¢. United Kingdom and 6¢. for Continent. Tennessee high-grade rock is quoted 9 $\frac{1}{2}$ to 10 cents a unit, with quotations f. o. b. Centerville \$3 to \$3.25 per ton. The local charters reported for the week are as follows: Schooners Kate Darlington, Ashley river to Easton, Md.; Francis M., to load Ashpoo, S. C.; Agnes Manning, at Beaufort, S. C.; and Mary Lee Patten, Ashley river, S. C., all for Baltimore. The schooner Senator Sullivan is chartered to load at Fernandina, Fla., for New York. In New York there is a scarcity in suitable tonnage reported, and business in freights is somewhat restricted. Steamers are in better demand today, and berth freights are dull, with rates nominally unchanged. The following charters are reported in phosphate circles: A British steamer, 826 tons, from a Southern port to the United Kingdom or Continent with phosphate on private terms; a schooner, 714 tons, from Tampa, Fla., to Cartaret, N. J., or Baltimore with phosphate rock at \$2.10, and a British steamer, 876 tons, from Port Royal to Dublin with phosphate at 15s. 9d., chartered abroad.

Fertilizer Ingredients.

The general market for leading ammoniates is fairly active and prices firm at quotations. In the West the stocks of blood and tankage are not excessive, and with a fair demand values rule firmer. There is some demand from the South, and the fertilizer trade in that section is better. Nitrate of soda is steady.

The following table represents the prices current at this date:

Sulphate of ammonia, gas....	\$2 40¢	—
Sulphate of ammonia, bone....	2 30¢	2 40
Nitrate of soda.....	1 80¢	1 85
Hoof meal.....	1 70¢	—
Blood.....	1 80¢	—
Azotine (beef).....	1 70¢	—
Azotine (pork).....	1 75¢	—
Tankage (concentrated).....	1 70¢	—
Tankage (9 and 20).....	1 50¢	and 10
Tankage (7 and 30).....	17 00¢	17 50
Fish (dry).....	20 50¢	—
Fish (acid).....	12 00¢	—

Phosphate and Fertilizer Notes.

The schooner Vanleer Black sailed from Tampa, Fla., on the 20th inst. with 860 tons of phosphate from the Palmetto Phosphate Co.

Mr. H. L. Babbitt, a contractor, has purchased all of the flint rock on the lands of Edward Stanley on the Live Oak Phosphate Co.'s railroad spur near Phoenix, Fla.

Messrs. Frank V. Rhodes, John S. Lusk and Julian Henry Lee were appointed receivers on Tuesday last for the Woolbridge Fertilizer Co., of Baltimore, upon the filing of a bond for \$100,000.

The schooner Vanleer Black from Mantanzas arrived at Port Tampa, Fla., on the 15th inst. for a cargo of phosphate, and the schooner Madelin Croley from Cardenas, also to load phosphate rock.

It is stated that the fertilizer business in Savannah, Ga., is larger this season than for several years past. The factories are kept busy working to their utmost capacity to meet the increased demand.

The sales of fertilizer tags at the office of the commissioner of agriculture at Montgomery, Ala., last week were very large. The sales of four days averaged \$1100 per day, which represents more than 2200 tons daily.

It is stated that Mr. G. E. Lyndon, who purchased the property of the Athens Oil & Fertilizer Co., at Athens, Ga., has spent over \$8000 in making additions and repairs to the plant, which is now being operated on full time.

The Trenton Phosphate Co., of Alabama, Fla., is making extensive preparations to commence mining in a few days. It is making large investments in building railroads from its washer to the several phosphate pits on its lands.

The Marjorie, a big four-masted schooner, was loading phosphate rock at Fernandina, Fla., on the 19th inst. She will clear for Baltimore with 1800 tons of rock, which is the largest phosphate cargo ever taken out of that port by a sailing vessel.

The schooners Jerome B. Look for Boston and Raison for Baltimore were loading with phosphate on the 17th at Fernandina, Fla. Charters for that port have been issued to the steamships Tyr. Bengore Head, Ramore Head, Norlands and Hallshire, and the schooners Marjorie and Star of the Sea.

The Suwannee Phosphate Co., near Gainesville, Fla., recently transferred to a turpentine and rosin manufacturing company in the western part of the county 27,000 acres of timber land. It was purchased for mining phosphate several years ago, but did not yield high-grade rock in sufficient quantity to warrant extensive mining.

The increased business of Port Tampa, Fla., in the shipments of phosphate is shown in the statements issued by the Plant system. For the year 1891 only 15,482 tons were shipped, while in the following year shipments had increased to 65,406 tons. In 1893 98,637 tons were shipped, and in 1894 shipments increased to 165,889 tons, while last year 168,443 tons were sent out, the large majority of it to foreign ports.

The coastwise shipments of phosphate rock from Charleston for the week ending the 17th inst. were as follows: Schooner Clara A. Phinney for New York with 660 tons; schooners Maggie J. Lawrence with 550 tons, and Warner Moore with 456 tons, both for Richmond, Va., and schooner Nellie W. Howlett with 829 tons for Baltimore. The total clearances from this port since September 1 for domestic ports amounts to 38,415 tons of crude rock and 7827 tons of ground, against 32,209 tons of crude and 715 tons of ground last year.

Iron Markets.

Cincinnati, January 18.

The past week has witnessed more activity in Southern iron than has been manifested for months. Pipe works in all sections of the country have been testing the strength of the furnaces, and a number of important deals have been closed, aggregating about 50,000 tons. Most of the Alabama furnaces are decidedly hopeful and even optimistic. The decreased production and increased demand, to-

gether with the more cheerful financial outlook, lead them to believe that nothing but patience and firmness are needed to restore prices to a profitable basis. There have been a few weak spots, and the shrewd buyers have found them. Every large order that has been booked has served to strengthen the seller, and the indications are that those making the lowest prices will soon be loaded with orders. If the smaller buyers follow the larger in purchasing soon, and if rolling mills find a demand for their product, the future is assured. Just now all mills are short of orders, and are discouraged. They say it is not possible to sell their finished material, and at present prices they cannot keep even. The threatened strike of Alabama ore and coal miners has been averted.

There has been an advance in Bessemer, and it may today be fairly quoted at \$11.75 cash valley furnaces, although some of the producers are asking \$12 to \$13. An inquiry for 10,000 tons has been handled by a number of Pittsburg brokers, and the impression arose that heavy purchases were contemplated. The deal was not made, because the party preferred to make the iron rather than pay the price asked.

Collections have been unusually bad, but at the close of the week there is an improvement.

Southern coke No. 1 fdy.....	—@	\$11 75
Southern coke No. 2 fdy.....	—@	11 50
No. 1 soft.....	—@	11 75
Lake Superior coke No. 1.....	13 50¢	14 00
Lake Superior coke No. 2.....	12 50¢	13 00
Hanging Rock charcoal No. 1.....	16 00¢	17 00
Tennessee charcoal No. 1.....	13 50¢	14 00
Jackson county silvery No. 1.....	14 00¢	15 00
Southern coke, gray forge.....	—@	10 75
Southern coke, mottled.....	—@	10 50
Standard Alabama car-wheel.....	15 75¢	16 25
Tennessee car-wheel.....	14 50¢	15 00
Lake Sup. car-wheel & malle.....	15 75¢	16 25

We quote for cash f. o. b. St. Louis:

Southern coke No. 1.....	—@	\$12 25
Southern coke No. 2.....	—@	12 00
Southern coke No. 3.....	—@	11 75
Southern gray forge.....	—@	11 25
Southern charcoal No. 1.....	14 50¢	15 00
Ohio softeners.....	16 00¢	17 00
Lake Superior car-wheel.....	17 00¢	17 50
Southern car-wheel.....	16 50¢	17 00
Genuine Connellsville coke.....	—@	5 75
West Virginia coke.....	—@	5 25

Chicago, January 18.

In iron circles there is a decidedly better feeling. Inquiries for pig iron, deliveries for the next six months, amount to a large tonnage, and before the week is over several contracts will no doubt be closed. As this is a condition existing in other markets as well, the tendency will be to give stiffness to the market. Already the downward trend of prices has received a check, and there are many indications that values have touched bottom, and may recover within the next month a part of the reduction of the past six weeks.

That buyers believe that bottom has been reached is evinced by the brisk inquiry now going on.

A large dealer in finished iron told us today that he carried heavy stocks through November and December, with scarcely any sales. Already this month this stock has melted away like snow in a January thaw. His sales have been phenomenal.

A better feeling seems to prevail generally.

Bankers and business men are looking forward to February 5, as a time when the new issue of bonds will be in the pockets of our people and their gold in the government vaults. Money will be easier, confidence catch a new grip and better times will prevail.

We quote as follows, f. o. b. cars Chicago:

Lake Superior coke No. 1 fdy.....	\$13 50¢	\$14 00
Lake Superior coke No. 2 fdy.....	13 00¢	13 50
Lake Sup. charcoal Nos. 1 to 6.....	15 00¢	15 50
Ohio Scotch No. 1.....	15 00¢	15 50
Jackson Co., O., silvery No. 1.....	14 50¢	15 00
Alabama silvery No. 1.....	13 50¢	14 00
Spathite.....	14 00¢	14 50
Southern coke No. 1 fdy.....	12 85¢	—
Southern coke No. 2.....	12 60¢	—
Southern coke No. 3.....	12 35¢	—
Southern coke No. 1 S.....	12 85¢	—
Southern coke No. 2 S.....	12 60¢	—
Mannle.....	13 50¢	14 00

New York, January 18.

A good deal of progress has been made this week in clearing away the clouds. The business sky is clearer. It is apparently settled that the government loan will be a success, and when the transaction is closed in February the money will slowly find its way back into the channels of business. While tight money inconveniences, it does not alarm. The war cloud has also rolled by for the present, and the foreigners who hastily unloaded our securities in December are buying them back. These two causes particularly give to the whole business situation a better tone.

Coming to iron, the producer is encouraged by several facts—first, the financial features mentioned above; second, the blowing out of a considerable number of furnaces North and South; third, a better inquiry, particularly from the very largest melters; fourth, prospects of a larger actual consumption of iron in 1896 than in 1895. Then there are reports of a threatened strike in the Birmingham district.

Most buyers look at the situation differently. They think the furnaces are whipped, and the prices will get back to where they were last spring before we are through with the decline. Some of them who have made offers at a shade under present range of prices are rather surprised to have them promptly refused. One leading maker thus summarizes the situation at the close: "The market is vibrating between the extreme views of holders on the one hand and buyers on the other, but with the accomplishment of each transaction and the passage of each day of actual resumption of business, we think their respective views are drawing closer together, and the vibrations are becoming shorter."

We quote for cash f. o. b. docks New York:

No. 1 X standard Southern.....	—@	\$12 75
No. 1 X choice Virginia, such as Shenandoah.....	—@	12 75
No. 2 X Alabama or Virginia.....	—@	12 50
No. 1 soft Alabama or Virginia.....	—@	12 75
No. 1 X lake ore iron.....	15 00¢	15 50
No. 2 X lake ore iron.....	14 50¢	15 00
Lake Superior charcoal.....	17 00¢	17 50

Buffalo, January 18.

The only noticeable features to report from this district are that the consumption of foundry iron seems to be increasing. The usual holiday shut-downs are not so long as for several years past. Considerable work seems to be in sight for the larger foundries. Lake Superior charcoal iron, that for a month or two has been quite inactive, is now much improved. Inquiries for that class of iron are more frequent, and generally lead to orders for immediate shipment to those who in the fall considered themselves covered for their winter's requirements.

In general, more interest is now being shown in foundry iron, owing to it being nearer to the time of the year when orders are naturally placed for future wants, and also to the fact that several of the largest consumers of foundry iron in other districts have been in the market for an unusual amount of pig iron.

No. 1 foundry strong coke iron	—@	\$13 50
Lake Superior ore.....	—@	13 00
No. 2 foundry strong coke iron	—@	14 50
Lake Superior ore.....	—@	14 00
Ohio strong softener No. 1.....	—@	14 00
Ohio strong softener No. 2.....	—@	14 00
Jackson county silvery No. 1.....	15 25¢	15 75
Southern soft No. 1.....	—@	13 40
Southern soft No. 2.....	—@	13 15
Hanging Rock charcoal.....	—@	17 50
Lake Superior charcoal.....	—@	15 50

We quote for cash f. o. b. Philadelphia:

No. 1 X standard Alabama.....	—@	\$12 75
No. 2 X standard Alabama.....	—@	12 50
No. 1 X standard Virginia.....	—@	12 75
No. 2 X standard Virginia.....	—@	12 50
No. 1 X lake ore iron.....	15 00¢	15 50
No. 2 X lake ore iron.....	14 50¢	15 00
Lake Superior charcoal.....	17 00¢	17 50
Standard Georgia charcoal.....	17 50¢	18 00

ROGERS, BROWN & CO.

If you wish to keep posted on the progress of the South, read the Manufacturers' Record. Price \$4.00 a year.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

The Lawrence Manufacturing Co., of Lowell, Mass., C. P. Baker, Ames Building, Boston, president, is investigating the South with a view to the erection of a cotton mill.

The Tremont & Suffolk Mills Co., of Lowell, Mass., has applied to the Massachusetts legislature for permission to increase its capital stock from \$1,500,000 to \$3,000,000. This is doubtless the first move in preparing to build a mill in the South.

ALABAMA.

Birmingham—Car-wheel Works.—Contract has been let at about \$20,000 to T. C. Thompson & Co. for the erection of the buildings for the new car-wheel works lately reported as to be built by N. S. Bouton, of Chicago, and associates. Address Mr. Bouton, care of Malone & Bell, of Birmingham.

Birmingham—Hardware Plant.—The East Birmingham Hardware Specialty Co. will rebuild at once its burned \$25,000 plant.

Birmingham—Bolt and Nut Works.—John Lalage, of Birmingham, and Mr. Cominge, of Houston, Texas, have organized a company to erect bolt and nut works, with a capital of \$10,000. Contract for a 50x100-foot building has been awarded.

Cleburne County—Gold Mines.—J. P. Moore, of Carrollton, Ga., has purchased, in conjunction with J. H. Johnson, of Edwinstown, Ala., gold properties in Cleburne county, and will develop mines.*

Delmar—Coal Mine.—A company is said to be forming to open a coal mine near Delmar.

Eufaula—Planing Mill.—Dawson (Ga.) parties are negotiating for the old Variety Works building, with the intention of equipping same for the manufacture of sash, doors and blinds.

Fort Payne—Steel Mill.—Preparations are being made to reopen the steel plant by the parties reported several months ago as having decided on same. J. K. Lanning is resident manager.

Ironaton—Furnace.—The Clifton Iron Co. will remodel and reconstruct its furnaces for the use of coke.

Linwood—Woodworking Factory.—R. J. Williams and W. R. Church are adding woodworking machinery to their factory.

Montgomery.—Nathan Griel and others have incorporated the Griel Bros. Co. with a capital stock of \$100,000.

Newton—Saw Mill.—Beal & Travis are erecting a saw mill.

Piedmont—Woodworking Plant.—It is reported that the Piedmont Oil Mills will put in a woodworking plant.

Selma—Cotton Mill.—A movement is afoot to remove a Chicago cotton mill to Selma. H. L. McKee, of Selma, is interested.

ARKANSAS.

Hardy—Flour Mill.—Gardner & Daily have built a flour mill of fifty barrels daily capacity.

Kearney—Lumber Plant.—The Bluff City Lumber Co., of Little Rock, has bought for \$38,000 the Kearney Lumber Co.'s plant and 3000 acres of timber land.

Little Rock—Bicycle Works.—Ed. Vaughn has purchased outfit for and will establish bicycle works.

Little Rock—Tobacco Factory.—The Arkansas Tobacco Co. will be organized at once for the purpose of erecting a tobacco factory to produce 100,000 pounds a year; to be formed by D. B. Gilbert and Z. T. Conner, late of Murray, Ky.; capital to be \$5000.

Prescott—Lumber Company.—The Tracey R. Thomas Lumber Co. has been incorporated with a capital stock of \$20,000, and Tracey R. Thomas, president, and Chas. R. Thomas, secretary.

Texarkana—Sewer System.—The city council has passed an ordinance authorizing an issuance of bonds for \$15,000 with which to construct sewer system. Address the mayor.

FLORIDA.

Daytona—Lumber and Novelty Plant.—E. Dillingham has completed his new plant, to replace the one burned in November last. It consists of saw and planing mill and novelty works. In the near future chair machinery will be added, and possibly furniture machinery.

De Land—Machine Shop.—R. D. McDonald contemplates the establishment of a general machine shop.

Gainesville—Lumber Plant.—Leutz Bros. have established a large lumber plant on the Gainesville & Gulf Railroad.

High Springs—Machine Shops.—The Plant Railway & Steamship Co.'s South Florida shops will be located in High Springs; H. A. Ford, superintendent, Sanford, Fla.

Miami—Ice Plant.—S. N. Gladwin, of Titusville, will erect an ice plant in Miami.

Miami—Ice Plant.—G. C. Springer, of St. Augustine, will erect an ice plant in Miami.

Micanopy—Rice Mill.—Joseph Moffatt will put in machinery for cleaning and polishing rice.

Palatka—Machine Shop.—G. W. Loomis & Son are placing a new boiler and other machinery in their machine shop.

Quincy—Electric-light Plant.—The Quincy Electric Light, Heat & Power Co. will erect a plant at once.

Tampa—Cigar Factory.—The Olvido Cigar Co. will erect a cigar and cigarette factory at once.*

Wildwood—Moss Factory.—The erection of a moss factory is reported as in contemplation.

GEORGIA.

Americus—Cotton Mill.—J. H. Bromley, of 205 South 42d street, Philadelphia, Pa., has made a proposition for the erection of a cotton mill in Americus.

Atlanta—Bridge.—City Engineer Clayton is now preparing complete plans for the proposed Jones-avenue bridge, which is to cost \$15,000; material to be iron and steel.

Augusta—Mercantile.—The Butt Exporting Co. has been incorporated with a capital stock of \$10,000 by E. H. Butt and others for dealing in cotton, etc.

Brunswick—Lumber Plant.—The Hilton-Dodge Lumber Co. has shut down its mill and will remain idle four weeks making improvements that will double its capacity; when completed 150 men will be employed.

Canton—Gold Mines.—J. C. Wall and associates, noted last week as to open mines, have purchased the Field & McLaine mines, near Canton, and will organize a company for the thorough development of the property. J. H. Roach and J. E. Brown, of Scottsboro, Ala., are interested.

Cuthbert—Telephone System.—The city has granted franchise to a telephone company. Address the mayor.

Dalton—Cotton Mill.—The Crown Cotton Mills will double, it is reported, its capacity.

Fitzgerald—Brick Works.—J. D. Brown and J. D. Holmes will erect brick works of 40,000 daily capacity.

Fort Valley—Electric-light Plant.—The Fort Valley Electric Light Co. has been organized with W. H. Harris, president; Geo. H. Dapney, secretary, and S. T. Nell, man-

ager; will erect plant for operation within sixty days.*

Macon—Ice-machine Works.—S. S. Miles, of Cincinnati, Ohio, is endeavoring to interest Macon investors in the organization of a \$100,000 stock company to build works for the manufacture of a new ice machine. Bryan Lawrence, of Macon, is interested also.

Marietta—Gas Plant.—The city has granted franchise for a gas plant to the United Wood Gas Co., of New York city.

Moultrie—Saw Mill.—D. C. Bacon, H. P. Stewart and J. B. Norman, Jr., have incorporated the Pinopolis Lumber Co. to erect a saw mill.

Rome—Corset Factory.—It is reported that arrangements have been made with a Northern firm for the location of a shirt-waist and corset factory to employ 100 operatives and represent \$25,000 capital.

Savannah—Lampblack Factory.—The Seeman Manufacturing Co. will erect an additional factory to cost \$6000; capacity to be 200 barrels weekly.

Savannah—Construction Company.—The Strather Co. has been incorporated with a paid-in capital of \$10,000 for a general railroad construction business.

Sparta—Cotton Mill.—A company is being organized on the co-operative plan for the erection of a 2500-spindle cotton mill. E. A. Rozier can be addressed for information.

KENTUCKY.

Ashland—Coal Lands.—The Thacker Coal & Coke Co., of Thacker, W. Va., has bought \$50,000 worth of coal lands near Ashland from the Terrell Bros.

Georgetown—Ice Plant.—A company is being formed to build an ice plant; over \$5000 subscribed.

Grand Rivers—Furnaces.—T. F. Abildgaard, agent of the Grand Rivers Furnace Co., writes that there is no immediate prospect for the furnaces going into blast.

Harrodsburg—Cannery.—A. J. Vandiver, of Charleston, Ill., is endeavoring to form a company to erect a cannery in Harrodsburg. W. A. Vandiver, of Harrodsburg, is interested.

Island—Coal Mines.—The Field Coal Co. has been incorporated, and has purchased and will develop the Chicago Coal & Coke Co.'s property near Island. C. L. Field is president, and Rowan Holbrook, secretary; capital \$4000.

Knottsville—Saw Mill.—Shuerer & Tennes will operate a saw mill.

Louisville—Tannery.—William Schuff & Co. will rebuild their \$80,000 tannery, reported in this issue as burned.

Madisonville—Electric-light Plant.—The city has let contract to I. Bailey to supply the streets with electric lights, and a plant will be erected at once.

Middlesborough—Fire-brick Works.—William Pritchard will endeavor to form a company to erect fire-brick works.

Murray—Lumber Plant.—The Woodruff Lumber Co. will make many improvements to its plant in the spring.

Newport—Water Works.—There is some talk of the city adding a 5,000,000-gallon pumping engine during the year. John Surran is superintendent.

Pine Knot—Oil Wells.—W. G. Stubbe and others have organized a company to drill oil wells.

LOUISIANA.

Alexandria—Ice Plant, etc.—A stock company has been formed with a capital stock of \$40,000 for the purpose of erecting a 50-ton refrigerating plant and a 25-ton ice plant. The machinery has been ordered, and work on the plant will be commenced next month. The Anheuser-Busch Brewing Co., of St. Louis, Mo., has subscribed for \$25,000 worth of the stock.

New Orleans—Hotel.—The Andrew R. Blakeley & Co., Limited, has been incorporated to operate the St. Charles Hotel; capital stock \$100,000. Joseph Collopy is secretary.

New Orleans—Grain Elevators.—The Illinois Central Railroad will build grain elevators.

New Orleans—Electric-light Plant.—J. F. Cohn and M. Ber have obtained the electric-light franchise for which they applied recently, and will organize a \$300,000 company to build a plant.

New Orleans—Dry-docks.—The McLellan Dry Dock Co. has purchased the Robertson marine dry-dock for \$41,000.

MARYLAND.

Annapolis Junction—Water Works.—W. S. Powell is advocating the construction of water works at a cost of \$206,000.

Baltimore—Land Company.—The Colonial Land Co. has been incorporated by James S. Rogers and others with a capital stock of \$20,000.

Baltimore—Electric Plant.—The power plant of the Columbia & Maryland Electric Railway will include in its equipment four 700-kilowatt generators, four 900 horse-power engines and ten boilers of 300 horse-power each; building to be one story high, 120x250 feet.

Baltimore—Electric-subway System.—The city will doubtless make arrangements in the near future for the construction of a complete electric-subway system. For information address the mayor.

Baltimore—Bakers' Supplies.—W. M. H. Ferris and others have incorporated the Ferris-Noeth-Stern Co. with a capital stock of \$50,000 for the purpose of dealing in and manufacturing bakers' supplies.

Bloom—Cider, Grist and Saw Mill.—Henry Magin will rebuild his cider, grist and saw mill, lately burned.*

Jarrettsville—Creamery.—G. A. Cairnes has about completed arrangements for erecting the creamery lately noted. Will commence work in a month or two.*

Midland—Coal Mine.—The Big Vein Coal Co. is opening a new mine.

Washington, D. C.—Electric Plant.—The Potomac Electric Light & Power Co. has obtained permit and will build a large electric light and power plant at once. Machinery has been contracted for.

Washington, D. C.—Machine Shop.—The Washington Brick & Terra Cotta Co. has obtained permit to erect a machine shop to cost \$1500.

Washington, D. C.—Fruit Company.—The Potomac Fruit Co. has been incorporated with a capital stock of \$25,000, and Nathaniel Chapman is president.

MISSISSIPPI.

Greenville—Water Works.—The city has voted \$60,000 as an appropriation for building water works. Address the mayor.

Pass Christian—Canning Factory.—About \$5000 worth of stock has been subscribed to the proposed cannery, and organization will be effected at once. J. H. Lang can be addressed.

Starkville—Saw Mill.—H. G. Dotil & Co. contemplate erecting a saw mill.

Vicksburg—Cotton Ginnery.—The Advance Mill & Gin Co. contemplates the following additions to its plant: Elevator, cleaner, gin stands, condenser, packing press, etc.

MISSOURI.

Kansas City—Strap Company.—The Wolf Safety Box Strap Co. has been incorporated with a capital stock of \$50,000 by J. J. Wolf and others.

Koshkonong—Lumber Company.—The Derge-Stables Lumber & Mercantile Co. has been incorporated by A. P. Campbell, A. Derge, A. G. Derge and Thomas Stables with a capital stock of \$20,000.

Poplar Bluff—Heading Factory.—H. Alfrey will rebuild his burned heading factory.

St. Louis—Wall-paper Company.—Chas. J. Thiemann and others have incorporated the Mound City Wall Paper Co. with a capital of \$2000.

West Plains—Wagon Company.—Geo. H. Cox and others have incorporated the West Plains Wagon, Carriage & Improvement Co. with a capital stock of \$8000.

St. Louis—Gold Mines.—The Lucky Marian Gold Mining Co. has been incorporated with a capital stock of \$100,000 by E. A. Koerner, Otto Kneif, J. B. McCullagh and Isaac L. Moore.

St. Louis—Fruit Company.—The McNair Fruit Co. has been incorporated with a capital stock of \$140,000 by L. M. McNair and others.

St. Louis—Bottlers' Supplies.—The W. Jost Cork & Bottlers' Supply Co. has been incorporated with a capital stock of \$30,000.

NORTH CAROLINA.

Asheville—Cotton Mill.—The Asheville Cotton Mills has recently put in twenty looms, making 420 in all.

Bessemer City.—E. A. Cooley, of Bay City, Mich., and associates, reported last week as having bought the Bessemer Mining Co.'s property, will organize a new company and resume mining in the near future.

Charlotte—Cotton Mill.—A company will be organized for the purpose of erecting a mill of 5000 spindles to make fine hosiery yarns. H. S. Chadwick is to be president.

Greensboro—Iron Furnace.—The property of the North Carolina Steel & Iron Co. has been formally transferred to J. M. Worth, Edwin Shaver and associates. It is said that the furnace will be put in blast in the near future.

High Point—Chair Factory.—It is reported that a \$15,000 chair factory will be erected.

Hillsboro—Fertilizer Factory.—It is stated that the Farmers' Alliance will erect a fertilizer factory.

Hillsboro—Cotton Mill.—James E. Webb will erect a cotton mill of 15,000 spindles, and is now North contracting for equipment.

Machpelah—Gold Mine.—J. S. Knight, of Pennsylvania, has purchased a gold mine from W. A. Graham, of Machpelah.

Marshall—Soap Factory.—It is reported that a soap factory will be erected.

Monroe—Cotton Mill.—The Monroe Cotton Mills, now operating 5000 spindles, will double its capacity.

Pittsboro—Cotton Mill.—There is a movement afoot for the erection of a cotton mill; about \$10,000 subscribed.

Point Peter (not a postoffice)—Lumber Plant.—A new saw and planing mill is being erected at Point Peter. Eugene V. Baltzer, of Jacksonville, N. C., is said to be the promoter of the enterprise.

Shelby—Cotton Mill.—The new cotton-mill company, already noted as being formed by Dr. W. C. Black, has elected a board of directors. Work on mill will commence in a few months.

Summerfield—Pants Factory.—It is reported that a pants factory will be started to employ a large number of hands.

Warlick—Saw Mill.—T. R. Glass will rebuild his burned saw mill in the spring.*

Winton—Knitting Mill.—The Winton Knitting Mill has been organized, and is equipping a hosiery plant.

SOUTH CAROLINA.

Beaufort—Cotton Mill.—It is proposed to organize a company to erect a \$100,000 cotton mill, and the Commercial Club is endeavoring to push the project to success.

Beech Island—Kaolin Beds.—C. B. Lamar has purchased and will develop kaolin beds.

Blacksburg—Acid Chambers, etc.—The Carolina Sulphuric Acid Manufacturing Co. will start up its acid chambers this week. The company is now pushing the work on its stamp mill and chlorination plant, and expects to be ready to operate same in about two months.

Blacksburg—Cotton Mill.—Application has been made for a charter for the Blacksburg Cotton Mill, which was decided upon last fall as to be built. For particulars address D. D. Gaston, secretary, Mechanics' Building and Loan Association.

Charleston—Cotton Mill.—A company is being formed, to have a capital stock of \$150,000, to erect a cotton mill, and Henry P. Williams is promoting same. Charter has been applied for.

Charleston—Cotton Mill.—D. A. Tompkins, of Charlotte, N. C., is endeavoring to interest Charleston capital in the erection of a co-operative cotton mill.

Columbia—Electric-power Plant.—The Columbia Canal Co. has definitely decided to construct the electric-power plant noted some months ago in the Manufacturers' Record as contemplated. It is intended that the water of the canal be utilized to generate electricity to be sold to manufacturers at a low cost. A plant of from 9000 to 10,000 horse-power, to cost about \$250,000, will be constructed at once.

Conway—Saw Mill.—There is a movement for the organization of a stock company to erect a large lumber plant, with dry-kilns and shingle mills. For further information address W. W. Lawrence Dozier.*

Enslay—Soap Factory.—Thomas K. Hudgens contemplates the erection of a soap factory.*

TENNESSEE.

Athens—Typewriter Factory.—R. J. Fisher has organized a company with a capital of \$100,000 for the purpose of manufacturing his patent typewriter, and will establish plant at once.

Bristol—Medicine Factory.—E. L. Andrews has put a new engine in his medicine factory.

Bristol—Hoop Factory.—D. W. Richardson, of Standish, Mich., will erect in Bristol a hoop factory.

Chattanooga—Horse-collar Factory.—The Mountain City Collar Co. has been formed with Fred Bitter, president, and equipped a factory for horse collars at Highland Park, a suburb.

Chattanooga—Packing Plant.—M. H. Ward and L. C. Riggs have started pork-packing on a small scale with the view of enlarging operations.

Chattanooga—Evaporator Works.—The Casey & Hedges Manufacturing Co. has purchased the right to manufacture a patent sugar evaporator, and will engage extensively in same in the near future.

Greeneville—Ice Plant.—The Greeneville Creamery will add a two to five-ton ice plant.*

Knoxville—Bridge.—The county commissioners are preparing to issue bonds for \$20,000 for the construction of the new bridge across the Tennessee river near Knoxville.

Tennessee—Slate Quarries.—Portner Warner, of Chattanooga, and W. Percy, of Chilhowie, will open slate quarries and erect works in Blount county.

TEXAS.

Barstow.—Geo. E. Barstow and others have incorporated the McKillop Horticultural Co. with a capital stock of \$200,000.

Comanche—Mercantile.—G. A. Beeman and others have incorporated the Beeman-St. Clair Mercantile Co. with a capital stock of \$50,000.

El Paso—Ice Machine.—Richard Caples can be addressed for information regarding the \$25,000 ice plant noted last week.

Fort Worth—Mercantile.—W. A. Butts and others have incorporated the Butts Bros. Dry Goods Co. with a capital stock of \$75,000.

Strawn—Coal Mines.—R. S. Weitzell has leased a large tract of coal lands near Strawn and organized a company to develop same. Northern parties are interested.

Tyler—Tannery.—H. M. Whitaker and others have incorporated the Texas Oak Leather Co., for tanning purposes, with a capital stock of \$40,000.

Velasco—Saw Mill.—The saw mill recently noted as to be built, to manufacture for export, will be owned and operated by O. B. Faubion.

VIRGINIA.

Danville—Tobacco Factory.—Richmond Maury and others have incorporated, with a capital stock of \$100,000, the Tobacco Warehouse & Trading Co.

Fredericksburg—Novelty Works.—Henry Urban and G. M. Fulkman will establish a factory for making school slates and other novelties.

Lynchburg—Cotton Mill.—The Lynchburg Cotton Mill Co. has decided to erect an addition for more looms, and to put in an electric plant for lighting its buildings.

Mineral City—Gold Mine.—W. H. Adams has leased and will develop the Walton gold mine.

Petersburg—Cotton Mill.—The Improvements to the Swift Creek Cotton Mill, noted last week, consisted of putting in 5670 spindles and fifty new looms, etc.

Petersburg—Brush Factory.—Robert Canabiss contemplates the erection of a brush factory.*

Richmond—Manufacturing.—Samuel S. Rosendorf (Box 391) and associates will form a company for the purpose of manufacturing a newly patented device; charter will be asked.

Richmond—Gold-mining, Smelting Works, etc.—The Buckingham Mining & Milling Co. has been incorporated for the purpose of erecting smelting works or chlorinating plant on the property of the Piedmont Gold Belt Chartered Co., and to mine and mill the ore on concessions. Charles T. O'Ferrall is president; Charles J. Anderson, Lewis H. Blair, George D. Wise and H. L. Denoon, directors; capital stock to be \$100,000. For further particulars address L. P. Routt, 803 East Main street, Richmond.

Richmond—Lumber Plant.—The Montague Manufacturing Co. has been incorporated with a capital stock of \$50,000 to operate the sash, door and blind factory of J. J. Montague. J. J. Montague is president, and J. L. Phippen, secretary-treasurer.

Roanoke—Bicycle Works.—Josiah Friend and R. E. Beeton are talking of the establishment of a bicycle works.

WEST VIRGINIA.

Arden—Coal Mines.—The Arden Coal Co. is opening a new mine; J. X. Hill, manager.

Charleston—Foundry.—A company has been formed to erect a foundry and machine shop, and Walter Cherry will be superintendent.

Elkins—Mercantile.—W. G. Harwood and others have incorporated the Elkins Cash Grocery Co. with a capital of \$20,000.

Roderfield—Saw Mills.—Jaeger Bros. will erect two large saw mills.

Wellsburg—Cannery.—It is proposed to erect a cannery, and a company is endeavoring to organize. L. M. Green can be addressed.

West Virginia—Lumber Plants.—The Crosby & Beckley Co., of New Haven, Conn., with mills in West Virginia, has increased its capital from \$40,000 to \$60,000.

Wheeling—Stone Works.—The Wheeling Stone Co., reported during the week as incorporated, has formally organized with J. B. Sommerville, president, and Edw. Smallwood, secretary and manager. The company will erect a plant for the manufacture of artificial stone sidewalks, building stone, etc.

Wheeling—Glass Works.—There is a movement afoot for the erection of a glass plant at a cost of about \$60,000.

Wheeling—Oil Wells.—J. C. Devine and others have incorporated the North Penn Oil & Gas Co. to drill oil and gas wells.

BURNED.

Birmingham, Ala.—The East Birmingham Hardware Specialty Co.'s plant; loss about \$25,000.

Bridgeport, Ala.—J. Seeman's canning factory; loss \$10,000.

Denison, Texas.—The seedhouse of the National Cotton Seed Oil Co.; loss \$10,000.

Easton, Md.—The mechanical shop of Milton Soulsby; loss about \$2000.

Liberty, Miss.—The cotton gin of W. F. Love, near Liberty.

Louisville, Ky.—The tannery of William Schuff & Co.; loss about \$80,000.

Moss Point, Miss.—The Dantzier Lumber Co.'s dry-kilns; loss \$5000.

New Orleans, La.—The Crescent City Rice Mill; loss about \$100,000.

Versailles, Ky.—Frank Bohannon's warehouse.

BUILDING NOTES.

Asheville, N. C.—T. D. Johnston has let contract for the erection of a brick block, to cost \$25,000, after plans by R. S. Smith.

Athens, Ga.—Depot.—The Seaboard Air Line office, Baltimore, Md., and the Western & Atlantic Railroad will build a freight depot 800 feet long.

Atlanta, Ga.—Jail.—The county commissioners have formulated plans for a jail.

Atlanta, Ga.—Synagogue.—The Israelites will build a new synagogue. Address Jacob Haas.

Atlanta, Ga.—Warehouse.—Inman, Smith & Co. have appointed W. T. Downing, of the Equitable Building, to prepare plans for the new warehouse. Bids are wanted for building.

Atlanta, Ga.—Infirmary Buildings.—Plans are being prepared for enlargements to the St. Joseph's Infirmary; improvements to cost about \$15,000.

Austin, Texas—Opera-house.—Lewis Hancock has ordered Riley Gordon and Burt McDonald to prepare plans for the remodeling of the Hancock Building into an opera-house.

Baltimore, Md.—University Buildings.—The Baltimore Law and Medical University proposes the erection of new buildings to cost about \$300,000; Dr. E. W. Ellau, dean.

Beaumont, Texas.—Contract has been let to Babin & Holland at \$7500 for the erection of a brick block.

Beaumont, Texas—Block.—Babin & Howard have contract for an \$8000 two-story block.

Bel Air, Md.—Church.—Contract has been awarded to Dennis J. Shanahan for the erection of a church building of gray granite; to have two furnaces and electric lights. Plans by Wyatt & Nolting, of Baltimore.

Birmingham, Ala.—Auditorium.—It is proposed to organize a \$10,000 stock company to build an auditorium. J. A. Van Hoose can be addressed.

Charlottesville, Va.—University Buildings. The building committee of the University of Virginia has engaged McKim, Meade & White, of New York, to prepare plans for the new buildings.

Douglas, Ala.—Store.—B. Peterson will erect a store and office building.

El Paso, Texas—Hotel.—J. F. Satterthwaite is endeavoring to interest New York capitalists in the erection of a large hotel in El Paso.

Fitzgerald, Ga.—Hotels.—Mrs. J. M. Morris will build a 100-room frame hotel; also a granite hotel.

Gurley, Ala.—Hall.—A \$5000 company is being organized to erect the hall building noted last week. E. F. Walker is to be the architect.

Gurley, Ala.—Store.—Contract has been let to Henderson Brandon & Son for the erection of a brick store.

Lexington, Va.—Courthouse.—An election will be held on issuing bonds for \$30,000 with which to build a courthouse. Address the county commissioners.

Lexington, Ky.—School.—The city will not build a \$20,000 school, as has been reported.

Macon, Ga.—University Buildings.—The trustees of Mercer University contemplate expending \$100,000, or part of same, for new buildings.

Miami, Fla.—Hotel.—Henry M. Flagler, of Jacksonville, Fla., and New York city, is preparing to commence work on the hotel noted last week. The structure will be an immense and costly one, with a main building 750 feet long by 135 feet wide.

Mobile, Ala.—Hall.—The German Relief Association will remodel its building at a cost of about \$8000. Rudolph Benz is preparing plans.

Newport News, Va.—Residences.—George E. Cornell has prepared plans for a residence for G. T. Uzzle and for Joseph Trader.

New Orleans, La.—Wharves and Warehouses.—The Illinois Central Railroad has obtained permission from the city to build warehouses, wharves, elevators, etc. Several hundred thousand dollars will be expended.

New Orleans, La.—Dwellings.—W. C. McKernan has permit for a brick store and residence to cost \$3600; the Sisters of the Holy Family for a \$5800 two-story brick structure, and Francis Curran for a \$2000 dwelling.

New Orleans, La.—Warehouse.—The Louisiana Molasses Co. will erect a five-story building.

Portsmouth, Va.—Business Block.—Mrs. Sarah Bidgood will erect a brick business block.

Raleigh, N. C.—Clubhouse.—The Capital Club has accepted plans for its new \$20,000 clubhouse.

Richmond, Va.—Theatre.—J. H. Laine, of New York, is said to represent Northern parties who will build a theatre in Richmond.

Savannah, Ga.—School.—Plans are invited house of twelve schoolrooms and four additional rooms for a two-story brick school; to have latest ventilating and heating systems; to cost not more than \$20,000. Address Lee Roy Myers, chairman of committee.

Washington, D. C.—Residence.—Thomas Nelson Page will erect a residence to cost \$100,000 after plans by McKim, Meade & White, of New York.

Wheeling, W. Va.—Business House.—L. W. Henigst will prepare plans for Geo. S. Feeny's business house, reported last week; will cost \$20,000.

Winston, N. C.—Courthouse.—Frank P. Milburn, of Kenova, W. Va., is preparing plans for a new courthouse to be erected at Winston; brick and granite, fire-proof, marble floors, hardwood finish and steam heat; notice to contractors will be given when plans are ready for bids; cost to be \$50,000.

RAILROAD CONSTRUCTION.

Steam Railways.

Albereme, Va.—The Virginia legislature has granted a charter to the Albermarle Company to build a railroad from Albereme, Albemarle county, to some point on the Southern Railway. The incorporators are W. E. Payne, George W. Bostwick, Hanford R. Nash, James H. Serene and Frank L. Felter.

Beaumont, Texas.—It is reported that the Kansas City, Pittsburg & Gulf Company has given an order for 60,000 ties for its line between Port Arthur and Beaumont; Robert Gillham, at Kansas City, chief engineer.

Beaumont, Texas.—The Gulf & Interstate Railway resumed its tracklaying between Galveston and Beaumont.

El Paso, Texas.—H. C. Lowrie, chief engineer of the line proposed between El Paso

and White Oaks, N. M., 148 miles, has begun making surveys.

Gaffney, S. C.—It is reported that the railroad line proposed is to extend from the Ohio River & Charleston road at Blacksburg through Gaffney to Spartanburg, passing through Cowpens, Clifton and Glendale.

Georgetown, Texas.—Mr. Frank Hamilton, of Austin, Texas, has agreed to complete the Trinity, Cameron & Western road between Georgetown and Granger within the next six months.

Huntington, W. Va.—It is announced that the Virginias Railway Co. has made arrangements to connect its road when built with the Cincinnati, Hamilton & Dayton system by a bridge across the Ohio river at Hamilton. Gen. W. G. Dacey, at 40 Wall street, New York, is interested.

Jackson, Tenn.—Among the parties interested in the proposed electric line are John A. Wisdom, S. D. Hays and J. H. Duke. No company has been formed as yet.

La Fayette, Ala.—The proposed railroad between La Fayette and Opelika will be completed to Oak Bowery by March 1.

Manchester, Va.—Augustine Royall, a director of the company which proposes building a line from Manchester to Petersburg, advises the Manufacturers' Record that the road will be twenty-two miles long. The company expects to begin work as soon as the legislature grants a charter.

Moundsville, W. Va.—It is stated that the Pittsburg, Monongahela & Wheeling Company may make Moundsville, which is practically a suburb of Wheeling, the terminus of the line. W. G. Dacey is president of the company.

Nashville, Tenn.—It is stated that a number of Southern and Western manufacturers are interested in the plan to build a new north and south line to parallel the Louisville & Nashville. Malcolm McNeill, of the Chicago Freight Bureau, is one of those interested.

New Orleans, La.—The Illinois Central Company has secured permission of the city council to increase its yard and terminal facilities by erecting warehouses and wharves and building sidetracks. J. G. Mann is engineer.

Norfolk, Va.—The Southern Railway Co., it is reported, may lay an extra track on the Norfolk & Carolina road between Pinner's Point and Rocky Mount, N. C., to accommodate its traffic. C. H. Hudson, Washington, D. C., is chief engineer.

Paducah, Ky.—Work has been resumed on the Chicago, Paducah & Memphis line, and it is stated that the extension to Paducah is to be completed. [This is the new route between Chicago and the South which may be used by the Wabash system.—Ed.]

Palestine, Texas.—The Louisiana, East & Central Texas Company has elected A. C. Green, president; T. L. Farris and A. B. Blevins, vice-presidents, and Theodore Miller, secretary. The company proposes to build a line from Fort Worth to Alexandria, La., by way of Palestine.

Pineapple, Ala.—The people of Pineapple are raising a fund to build an extension of the Louisville & Nashville three miles long to the town.

Richland, Ga.—A company is being organized to build a line from Richland to Louvale.

Richmond, Va.—A bill has been introduced into the legislature to incorporate the Interstate Railroad Co., and to allow it to build a line from Moccasin Gap, in Wise county, through Wise and Lee counties to the Kentucky line.

Rockport, Texas.—Surveyors have begun work on the proposed route of the Aransas Harbor & Northern road to Smithville, Texas.

Spartanburg, S. C.—Surveys have been completed for the road proposed between Spartanburg and Henrietta, on the Seaboard Air Line. Hon. A. B. Calvert, mayor, is president of the company.

St. Petersburg, Fla.—The Sanford & St. Petersburg division of the Plant system has been changed to standard gage between St. Petersburg and Trilby.

Tifton, Ga.—The Tifton & Northeastern Company has been chartered, and has already commenced to do a passenger and freight business. The officers elected are H. H. Tift, president; W. O. Tift, vice-president; E. H. Tift, secretary, and H. H. Tift, W. O. Tift, E. H. Tift, Mrs. Bessie W. Tift and W. W. Bacon, board of directors. The company has thirteen miles of line in operation, Tifton being one terminus and the location of the main offices, with eleven miles yet to build to reach Fitzgerald, Ga., the objective point. Arrangements have been made to complete the remaining eleven miles within the next sixty days.

Waycross, Ga.—The Manufacturers' Record is reliably informed that the Georgia & Alabama Company has purchased the Abbeville & Waycross road, and will at once extend it to Fitzgerald, four miles. Cecil Gabbett, at Americus, is manager.

Electric Railways.

Annapolis, Md.—Joseph B. Seth, of Baltimore, and others are interested in a company which proposes to build a road between Washington and Annapolis, to connect with a steamer line across Chesapeake bay. The company is to have \$500,000 capital.

Baltimore, Md.—It is expected to complete the section of the Columbia & Maryland electric road between Baltimore and Elliott City, sixteen miles, by June 1; also the section between Washington and Lorely, ten miles. H. T. Douglas, Equitable Building, Baltimore, is president of the construction company.

Hagerstown, Md.—Mr. W. F. M. McCartney is endeavoring to obtain a franchise to build an electric line.

Louisville, Ky.—It is estimated that the electric road proposed between Louisville and Fairfield will be twenty-nine miles long and cost \$500,000, including two powerhouses. Stock subscriptions to build it are being secured. Hon. W. B. Hoke is president, and Rowland Cox, chief engineer.

New Orleans, La.—The Levee & Barrocks division of the New Orleans Traction Co.'s system, six miles in length, has been opened for service.

New Orleans, La.—The Canal & Claiborne Railroad Co. has decided to reconstruct its lines for the use of trolley motors at once. President De Grange may be addressed.

Palestine, Texas.—W. B. Johnson is interested in a proposed trolley line in a town of 12,000 people, and wishes to correspond with contractors.

Street Railroads.

Palatka, Fla.—The Palatka street railway will probably be extended into the suburbs. W. C. Snow is manager.

Machinery, Proposals and Supplies Wanted

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Boiler and Engine.—See "Creamery."

Boiler and Engine.—See "Gold-milling Machinery."

Bolt-threading Machine.—E. E. Titus, Petersburg, Va., wants a bolt-threading machine.

Brush Machinery.—Robert Cabaniss, Petersburg, Va., wants to correspond with makers of brush machinery.

Cableway.—Wanted, prices f. o. b. New York (for export to West Indies) on cableway system from two to fifteen miles long for logging and mining in mountainous country. Send catalogues. Address C. G. Y., care of Manufacturers' Record.

Cider Mill.—Henry Magin, Bloom, Md., will buy outfit for cider mill.

Cigarette Machines.—The Olvido Cigar Co., Tampa, Fla., wants to buy cigarette machines.

Cotton-ginny Machinery.—The Advance Gin & Mill Co., Vicksburg, Miss., wants to buy the following ginny equipment: Elevator, cleaner, two 80-saw gin stands, condenser, double-box revolving self-packing press, seed carrier.

Fire Apparatus.—The Auburn Hook & Ladder Co., Auburn, Ala., will buy outfit for fire equipment, such as hooks, ladders, rubber or galvanized buckets, hand pumps, suction hose, etc.; T. A. Flanagan, chief.

Cotton-mill Machinery.—The Enterprise Manufacturing Co., Coleridge, N. C., wants to buy some two-inch ring warps and spinning-frames; must be good second-hand and low for spot cash.

Creamery.—G. A. Cairnes, Jarrettsville, Md., wants outfit complete for a creamery of 200 to 400 cows, including boiler and engine.

Electric-light Plant.—S. T. Neil, general manager, Fort Valley, Ga., will buy an electric-light plant at once.

Electric Motors.—The Cundell Lumber Co., Rome, Ga., wants prices on electric motors.

Elevators.—D. W. Austin, Orange, Texas, may want elevators for new building.

Fire Apparatus.—A. B. Whitfield, Hawkinsville, Ga., wants prices and information on trucks.

Fire Hose.—Sealed proposals will be opened February 4 at Savannah, Ga., for furnishing the city fire department with 6000 feet of two-and-one-half-inch circular solid woven cotton rubber-lined fire hose, to be made of the best gulf cotton, in lengths of fifty feet each, with Savannah fire-department standard couplings (Higbee thread) attached. For further particulars address John E. Maguire, fire chief.

Gas and Gasoline Engines.—The Cundell Lumber Co., Rome, Ga., wants prices on light make of gas and gasoline engines suitable for small woodworking shop.

Gasoline Engine.—Geo. F. Harbin, 319 Pennsylvania avenue S. E., Washington, D. C., wants a second-hand gasoline engine for pumping artesian well; state power and price.

General Novelties.—H. C. Caldwell, P. O. Drawer 548, Baltimore, Md., wants catalogues and discounts on general small novelties (for mail orders).

Gold-milling Machinery.—A quartz mill, engine and boiler will be wanted at once. Address J. P. Moore, Carrollton, Ga.

Granite Curbing.—Sealed proposals will be received at Jacksonville, Fla., for furnishing the city with 18,000 feet of granite curbing, 4x18-inch curbing in lengths of three feet six inches and upwards, etc. For further particulars address A. F. Harley, city engineer.

Grinding Machinery.—The Warren Grain Co., 64 East Alabama street, Atlanta, Ga., wants a mill or machine that will grind hay rapidly, exhaust for elevating grain, etc.

Grist Mill.—Henry Magin, Bloom, Md., will buy outfit for grist mill.

Hay Press.—N 284, Sun Office, Baltimore, Md., wants a hay press, new or second-hand.

Heating Apparatus.—Hot-air heating furnaces will be wanted for fifty rooms after plans prepared by L. C. Mitchell, Greensboro, N. C., to whom correspondence should be addressed.

Heating Plant.—D. W. Austin, Orange, Texas, may want heating apparatus for a new building.

Ice Plant.—The Greenville Creamery, Greenville, Tenn., wants to contract for a two to five-ton ice plant.

Knitting Machinery.—J. R. Ervin, Morganston, N. C., wants to buy machinery for the manufacture of cotton hosiery.

Laundry Machinery.—Wanted, prices f. o. b. New York (for export to West Indies) on steam and hand laundry machinery. Send catalogues. Address C. G. Y., care of Manufacturers' Record.

Lumber-mill Machinery.—Parties having second-hand lumber-mill machinery for sale should correspond with W. W. Lawrence Dozier, Conway, S. C.

Paving Contract.—Sealed proposals will be opened on January 30 for paving about 47,000 square yards of street with vitrified paving bricks or blocks at Jacksonville, Fla. For specifications and blank forms of proposals write to the city engineer, A. F. Harley.

Pipe.—The Columbian Paper Co., Buena Vista, Va., wants 550 feet of 10-inch wrought-iron pipe, new or second-hand.

Pump.—Robt. N. Bell, Guntersville, Ala., wants a pump that will take water out of a well sixteen feet deep and elevate it forty feet. The tank or elevation is about 600 feet from the well; want to use it for stock tank, and want cheapest good power that can be had for the work (not a wind-mill).

Railroad Locomotive.—S. R. Fowle, Washington, N. C., wants prices on a locomotive, 5x10 size preferred, but 6x10 will do, new or second-hand.

Rail-shearing Machine.—The Anniston Iron & Steel Co., Anniston, Ala., is in the market for a rail-shearing machine with engine attachment, new or second-hand.

Railway Locomotive.—The New Jersey Car Storage & Repair Co., Lake View, N. J., wants a 20-ton Shay locomotive.

Railway Tram Engine.—W. H. Sikes, Swan Station, N. C., wants to buy a 15-ton tram engine for wood rail, 34 or 36-inch gage.

Rope and Twine Machinery.—Wanted, to equip a plant to make 1000 pounds of rope and twine per day. Address "Rope and Twine," P. O. Box 335, Montgomery, Ala.

Rosin Still.—A. H. Rozier, Tar Heel, N. C., wants to buy an iron still for rosin.

Saw Mill.—T. R. Glass, Warlick, N. C., will want, in the spring, machinery for a saw mill; will probably buy a second-hand one with twenty-five horse-power engine.

Saw Mill.—Henry Magin, Bloom, Md., will buy outfit for saw mill.

Saw Mill.—Wanted, prices f. o. b. New York (for export to West Indies) on portable saw mill. Send catalogues. Address C. G. Y., care of Manufacturers' Record.

Soap Machinery.—Thomas K. Hudgens, Easley, S. C., wants full information concerning the manufacture of soap, estimates on machinery, etc.

Telephone Supplies.—Mouzon & Turbeville, Georgetown, S. C., want prices on telephone wire and cable wire for salt water; may build seventy-five miles of line.

Tinner's Tools.—O 854, Sun Office, Baltimore, Md., wants a set of tinner's tools for outside and inside work.

Water-wheel.—J. E. Maguire, Lithonia, Ga., wants a turbine water-wheel, 30 to 50-inch; good second-hand will do.

Water-works Machinery.—The additional water-works machinery for the Jacksonville (Fla.) city plant will be advertised for at once. It includes two 5,000,000-gallon pumping engines and two 200 horse-power boilers. Address the superintendent, Mr. Ellis.

Woodworking Machinery.—The Cundell Lumber Co., Rome, Ga., wants second-hand light woodworking machines.

Woodworking Machinery.—Wanted, quotations for cash (delivered at Opelika, Ala.) on all or a part of the following: One 6x24-inch surfacer and matcher (double surfacer), one nine-inch four-side molder, one six-inch three or four-side molder, one 24-inch resaw, one 26x10-inch endless bed planer, one 12-inch jointer, one single-spline friezer or shaper, one double head and double cope tenon machine, one 36-inch band saw, one mortising machine, boring attachment and screw clamp, one automatic blind borer, one blind tenon machine, one blind wire machine, one panel-raiser for doors, one 16-inch turning lathe, one gig saw. Address Andrews & Stevens, Opelika, Ala.

TRADE NOTES.

Mr. James Berryman, M. E., of 125 North 4th street, Philadelphia, Pa., has just made a shipment of a 750 horse-power feed-water heater to Liverpool, England.

The United States Aerophor Air Moistening & Ventilating Co., of Providence, R. I., has received orders for more than 100 of its machines during the last few days.

The Keagy & Lear Machine & Foundry Co., Coshocton, Ohio, is a new concern composed of several local mechanics which will do a general repair business. The equipment of machine tools was ordered from the Davis & Egan Machine Tool Co.

The Austin (Texas) water works, pointed to as a model plant, has among its list of modern equipment three compound water-wheel governors, installed by the Replogle Governor Works, Akron, Ohio. They are used to govern water wheels used in electric lighting and electric railway work. The satisfactory performances of these governors are strong testimonials to their utility.

A very handsome isolated electric-light plant is that in the J. N. Adams Co.'s Building in Buffalo, N. Y., which is one of the largest retail stores in Buffalo. This concern recently added to its already large plant a 110 horse-power tandem compound Ball automatic engine of the Ball Engine Co. (Erie, Pa.) manufacture, direct connected to a 65-kilowatt Eddy Electric Co. dynamo.

Mr. A. E. Clarkson, corner of Front and Plowman streets, Baltimore, has succeeded to the business heretofore conducted as Clarkson & Shaysman, and will continue as A. E. Clarkson & Co., engineers and machinists. Mr. Clarkson says that the business will hereafter be conducted solely by him, and that he proposes to give prompt personal attention to his work and invites the patronage of the public.

Contracts have been awarded to the New York Equipment Co., 89 Broadway, New York city, for a large amount of rolling stock, etc., to be used on the Chesapeake & Western Railroad, of Virginia, now being pushed forward to completion by the Old Dominion Construction Co., of New York. The order includes two passenger coaches, two combination cars (all equipped with six-wheel trucks), twenty box cars, ten flat and twenty gondola cars, for prompt de-

livery. In addition to these orders, the New York Equipment Co. has also closed contracts since the first of the year with the Lancaster & Hamden Railway for two passenger coaches, and is shipping to the Lima Northern Railway Co., of Ohio, two large engines.

The Currie Fertilizer Co., of Louisville, Ky., has contracted with C. H. Dempwolf & Co., of York, Pa., for a complete phosphate-acidulating outfit, including acid tank and air compressor for handling sulphuric acid. This firm also lately received an order from the Jurecki Chemical Co., of Sandusky, Ohio, for one of its electric magnetic separators used for picking scrap iron from bones before grinding.

An additional order for plansifters and other supplies for the 150-barrel flour mill of W. H. C. Kemp, at Williamsport, Md., was lately secured by Charles E. Manor, Stanleyville, Va. The order was given after the satisfactory test of similar equipment previously furnished. Mr. Manor is the general agent for Virginia, West Virginia, North Carolina and Maryland of the Barnard & Leas Manufacturing Co.

Peaveys, cant hooks and pike poles are now being made by the Southern Log Cart & Supply Co., of Mobile, Ala. The sockets of the peaveys, which are made of the best malleable iron, are two and one-half, two and three-quarters and three inches in diameter. Hammered duck and round bill hooks, made of the best crucible steel, are used, and the bolts are thoroughly tested. Second-growth hickory oiled handles are used. The cant hooks are made of the same material as the peaveys, and special care is taken in the selection of their hickory handles. This company manufactures everything used by loggers, and its extensive facilities enables it to handle to the best advantage orders for such equipment.

In the award of contract for the boilers to be installed in the power-stations of the Columbia & Maryland Railway, some of the most notable conferences of engineers ever held took place. The enterprise of the company—a long-distance electric railroad connecting the nation's capital with Baltimore—has attracted general attention throughout the electrical world. New conditions were to be handled in its operation, and leading experts were in consultation as to the best usages and equipment to adopt. It is a flattering tribute to the Campbell & Zell Co., of Baltimore, to have been awarded the contract for furnishing the boilers for the company's stations at Hiechester and Hyattsville. After a lively competition and a careful and exhaustive examination, this concern was awarded the contract. Ten boilers of 300 horse-power each are to be installed at each station.

The Jamieson Fire-Resisting Paint Co., 62 William street, New York city, has just published a new descriptive pamphlet, which will be found of general interest. Among the recent large sales made by this company, the names of the following prominent firms are included: Fearon Lumber & Veneer Co., of Ironton, Ohio; Ochs & Son, extensive contractors at Allentown, Pa.; Berwind-White Coal Mining Co. (largest bituminous coal miners in the world); Cleveland Furniture Co., Jacksonville, Fla. It is interesting to note the hold the use of fire-resisting paints has taken upon manufacturers in general. The Continental Match Co., of which Edwin Gould is president, has been using the products of this company steadily for the past year, and there is not a stick of wood in either of its immense plants at Ogdensburg, N. Y., and Passaic, N. J., which is not covered with this paint.

The works of the Pittsburg Reduction Co. have now been in operation at Niagara Falls for several months. The necessary electric current has hitherto been furnished through four of the General Electric Co.'s 400-kilowatt rotary converters, but owing to a considerable increase in the reduction plant they have been found inadequate for the service, and each of these 400-kilowatt converters is about to be replaced by one of 600-kilowatt capacity. The new machines will be mounted upon the same base frames as the 400-kilowatt converters, and thus the converter plant will be increased one-half without any increase in floor space. A fifth converter of 600-kilowatt capacity will be installed beside the others, and will be similar to them in every respect. The total rotary converter capacity will then be 3000 kilowatts. Including the transformers installed in the works of the Carborundum Company and the Calcium Carbide Company at Niagara Falls, the General Electric Co. will have furnished 5000-kilowatt capacity of

transformers for operation in connection with the Cataract Construction Co.'s system.

Good business during the past year is reported by the Standard Boiler Co., Chicago, Ill. The company is now situated in new offices at 1120 and 1121 Marquette Building, in that city. These boilers are built by the well-known firm, the Link-Belt Machine Co., of Chicago. New and improved machinery for their manufacture has been put in, thus reducing the prime cost, as well as making the various parts interchangeable. During the past year a number of fine plants have been installed, amongst others being the following: 1000 horse-power for the North Chicago Street Railroad Co., at its new power-station; 500 horse-power for the Cincinnati Edison Co., Cincinnati, Ohio; 600 horse-power for the Western Electric Co., at its factory in Chicago, and various others. It reports prospects for the coming year as good. The satisfactory record of these boilers makes the prospects bright for their wider introduction during the coming year.

Few people unacquainted with the details of ship construction have any thought of the vast amount of auxiliary machinery, such as electric-light equipment, anchors, capstans, windlasses, etc., that will be required aboard the sixty-five new ships now under contract on the great lakes. In some lines where manufacturers of auxiliary machinery have devoted special attention to producing the best article on the market, whole establishments will be worked to their full capacity for months on orders resulting from this long line of contracts for new vessels. Take, for instance, the American Ship Windlass Co., of Providence, R. I. Probably 90 per cent. of the windlasses and capstans for these new vessels will be furnished by this concern. All of the steel schooners or tow barges in the list will be fitted with steam towing machines, and the Providence concern, whose successful machines of this kind are well known, will furnish all of these. Then, too, the enlargement of freight vessels has caused a demand for additional capstans. In addition to the usual windlass and capstan forward and capstan aft, the big steamers will have two more capstans. One of these will be placed aft of the forward house and the other just forward of the after house.

So many uses are now found for compressed air that with very many manufacturers compressed air is found on tap. One of the most desirable uses it can be put to is in the pumping of water, especially if the water is located some distance away. The loss in conveying air is very slight, and a long pipe line, when necessary, has its advantage in becoming a storage reservoir for the air. The practicability of its application in this direction is evidenced by what has already been accomplished. The Waring-Prindle Pump Co., 123 Liberty street, New York city, sole agent for the Merrill Manufacturing Co.'s system of pumping water by compressed air, has sold pneumatic pumping plants recently to parties in Frostburg, Md.; Staunton, Va.; Union, S. C.; Le Grand, Ala.; Salisbury, N. C.; Newton, Kas.; Duncan, I. T., and other points in the South and West. A large plant is now being installed at Peoria, Ill., lifting water 400 feet elevation from a river over a mile away. A recent successful installation by the Waring-Prindle Company is one for the Baltimore & Ohio Southwestern Railway at Iuka station, Ill. The success achieved has started many other railway companies to investigate the system for water-stations on their lines, and several important plants are under negotiation at present.

Mr. James E. Dingee, the well-known Philadelphia brick-maker, is putting in one of the latest improved Martin outfits, including a 40,000 capacity steam-power brick machine, with extra large horizontal pug mill and clay crusher complete. This makes the fifth machine of this type put in for Mr. Dingee. Mr. A. G. Collom, a successful young Philadelphia brick-maker, is equipping his new plant with a complete outfit of the latest improved Henry Martin brick machinery, including a machine of 40,000 capacity, letter "A" steam-power machines, with crusher, elevator and pug mill. This is the second outfit that has been put in for Mr. Collom. Mr. D. F. Gohn, an extensive brick manufacturer, of Columbia, Pa., is putting in his second Martin outfit. The original Martin machine was a 30,000-capacity machine. Mr. Gohn is increasing his plant by putting in one of the latest improved Martin letter "A" machines of 40,000 capacity, in connection with the latest improved Martin pug mill, elevator and clay crusher complete. Mr. Wm. Ferguson, of

Bloomsburg, Pa., is making valuable additions to his plant by putting in another outfit of this class of machinery. It will thus appear that the Henry Martin Brick Machine Manufacturing Co., Lancaster, Pa., is continuing to enjoy success with its products.

Considerable attention is being directed towards Charleston, S. C., as a favorite place for winter homes. Its climate is mild in winter, without the enervating heat of points further South, being such that winter residents can go to Charleston in October or November and remain until May or June with much comfort and pleasure to themselves. The citizens are anxious to have people from the North and West make Charleston their homes, and attractions are held out for the purpose. The city's water supply is from artesian wells, and the water has recently been proven to be an effective dyspeptic cure when used as drinking water and a rheumatic cure when bathed in hot. Charleston has a long established and delightful society, and ready access is accorded those entitled to such privileges. The harbor is a safe and beautiful one for yachting. The surrounding country affords good hunting and fishing, and it would seem that before long Charleston will become in the South in winter what Newport and Saratoga are in the North in summer. The city offers peculiar inducements as a place of residence to people of moderate means. Social position can be maintained, in competition with others, in a way that is not practicable in the large money centres of the North and West. The city is full of historic interest, and now seems on the point of resuming its former commercial importance, as the system of jetties recently constructed by the United States government have converted the old shallow bar into a deep-water entrance. A notable feature of Charleston is that the values of real estate there have been steadily maintained for many years. People do not usually invest in a home with a view of selling it; but it is a comfortable feeling to have, that should occasion require it, the money invested in it can be realized. In our advertising columns two fine home properties are offered for sale by the Exchange Banking & Trust Co., of Charleston.

TRADE LITERATURE.

Printed in harmonious colors, a calendar issued by P. Prybitt, 512 West 41st street, New York city, shows woodworking machinery and other equipment which he manufactures.

From the Penberthy press comes a handsomely-executed calendar in colors. The Penberthy Injector Co., Detroit, Mich., operates a printing department for getting out its own circular matter. The appearance of the calendar indicates the same high order of workmanship in this branch as is employed in the production of the company's well-known product.

A very complete catalogue of frogs, switches, crossings and other railroad and street-railway work is issued by the Weir Frog Co., Cincinnati, Ohio. It is in book form, and handily arranged. The range of its contents embraces the most improved devices. Automatic switchstands, rail braces, bridge guards, a large number of styles of frogs, crossings of various patterns, derailing device, joints, head chairs, switches, switch-throwing devices and many other articles are illustrated. A number of tables and rules are given of practical value. The catalogue will prove a useful reference book to contractors and railway managers.

A neat little pamphlet which records the inception and development of inventions whose influence has been far-reaching and a potent factor in the evolution of industrial methods in various directions, has been issued by the B. F. Sturtevant Co., Boston, Mass. This concern, whose products are now accepted standards, owes its existence to the remarkable ingenuity, indomitable will and perseverance of a young shoemaker. Breaking away from the narrow possibilities of pegging shoes by evolving a machine to do the work, B. F. Sturtevant located in Boston in 1857 to introduce his invention. The active brain and practical mind which directed his actions soon produced another invention, a buffing wheel for smoothing the soles. Dust created by the use of this machine proved an annoyance until he hit upon an arrangement of exhaust fan for drawing it away. This was the germ from which spread out the great business of the B. F. Sturtevant Co. of today. The pamphlet affords instructive and entertaining reading, and can be secured on application. Its title is, "A Third of a Century of Progress."

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A change in well-known Philadelphia firm manufacturing electric switchboards, switches and tableboards is announced. Eyanson & Armpriester have succeeded to the business of J. Grant High & Co. The change is caused by the retirement of Mr. High from the firm, of which Messrs. Eyanson and Armpriester were also members. Mr. Eyanson will continue as before to superintend the construction work. The office of the firm is at 123 North Third street.

I WILL MOVE A COTTON MILL of 5000 spindles and 300 looms South to continue the manufacturing of one of the most popular makes of goods, if desirable arrangements can be made and good location found. C. A. E., Care of Manufacturers' Record.

A PROSPECTUS has been issued by the Lake Drummond Canal & Water Co. for the reconstruction of the old, and now disused, Dismal Swamp canal.

For years this has been an ever-reappearing scheme that, after being found impracticable, except at a cost that was prohibitive of profit, would die out, to reappear again in new guise.

It has reappeared again within the year under the name of the Lake Drummond Canal & Water Co., with a prospectus that would make it one of the most attractive investments before the public were its facts and deductions from the best information it could obtain, corroborated by the true facts.

When this new scheme first appeared it was not considered feasible by those acquainted with the subject because of the enormous expense necessary to reconstruct the Dismal Swamp canal, to make it exceed or even equal any other canal that might be projected, and because the maintenance of such a length of canal, cut through sand banks, as the Dismal Swamp canal line is, even when reduced to two locks in place of four, would be so heavy that there could be no profit, except such as the actual constructors might get for the work done. On a business basis it seemed impracticable. On the basis of profitable investment it promised only failure.

None will say that the canal cannot be built. The engineering skill of today can overcome difficulties that would seem insurmountable, though in the doing of it, if success is to be gained, it cannot stop to count the cost. But the cost is the basis of success or failure as a business measure in a project of this nature. The engineer's skill can build this canal, but when he shall have satisfactorily overcome the difficulty of building such a long line of canal, with its deep cut through soil of a light, sandy nature, and no small portion of it of a veritable quicksand, and made it so protected as to stand against the use of the large and ever-growing larger craft that will use it, the owner, whether stockholder or bondholder, will find that with all the revenue he can divert from others, and with all the new business he can invent, there will, after paying the actual operating expenses, be little left for the bondholder and nothing for the stockholders, and with no hope of future improvement. For the ethics, so to speak, of transportation show that rates are easy to reduce, but difficult to restore. And again, it does not seem quite fair to count too surely on the quiet submission of the present routes, now doing this business, to the demand of any newcomer to stand and deliver their business, for such is the meaning of the prospectus, which frankly admits that it expects no new business, but counts on getting 75 per cent. of the business done by the other canal, which would be 70 per cent. of its own revenue and 10 per cent. of the Norfolk & Southern Railroad business and 10 per cent. for water rent from the city of Norfolk and the other 10 per cent. from its own legitimate business. No wonder some of the readers of the prospectus have said it is "specious" and "predatory." And in this speciousness lies the danger—first, in greatly underestimating the cost of reconstruction; second, in a similar underestimate of the cost of maintaining, and last and vitally, in a vast overestimate of the revenue to be derived.

Were the canal reconstructed on plans and specifications that would call for work that would stand, the cost would largely exceed the figures on the prospectus. If the work were done only for a temporary service, there would follow constant and extensive repair that would make the cost much greater than estimated. And further, to maintain the cut through sand will require, on account of the deep cut to get over the present difficulty of different levels, very heavy sheet piling, for which the specifications of the Lake Drummond Canal & Water Co. do not call, and which would cost at a conservative estimate at least \$250,000, and for protection against the quicksands a heavy outlay, beyond calculation until the work was actually done, would be required.

So in either case the estimate of cost is

specious because less than will be required, and especially so because the writer naively admits, to quote his words, "I have not made any surveys or estimates for this work myself. To make the necessary surveys accurately would probably take several parties of men fully two months, and as much more time would be required for office calculations and estimates. I made this trip on March 21 and 22." One man two days!

Secondly, it is specious in underestimating the cost of maintenance, as in all its calculations it puts this as never exceeding \$25,000 a year. Why should this canal of twenty-nine miles length, through a soil more treacherous and more full of danger and more difficult to be kept in order, be able to bring its operating expenses and cost of maintenance down to a lower figure than the Albemarle & Chesapeake canal, which is less than half as long, and which is most favorably helped by nature in protecting a large part of its cuts with the huge cypress roots, could ever do, managed economically as it has been and its canal in such good order as to require a minimum of expense?

In a new company of such magnitude as the Lake Drummond Canal proposes to be, it takes time and experience to discover where the expense can be lessened, which, with revenues that cannot be easily increased, but are liable from the nature of the business to rather decrease, is the only source of profit.

There is another expense not considered in the prospectus—the liability to law expenses for damages to the cultivated land through which the canal runs. It was a frightful source of expense to the old canal, so why should it be ignored now, when the danger is greater by the greater risk from the fuller occupation of the very narrow right of way the company owns, namely, only 150 feet wide in North Carolina and only 300 feet wide in Virginia.

Locks 250x40 will require many times more water than the old ones did. Are the owners of Lake Drummond going to furnish the greater for the same they did the less? Possibly the prospector, in his hurried trip of two days, was unable to learn that the Lake Drummond which supplies the canal feeder is the private property of an English syndicate. English syndicates are not renowned for supplying the market except at prices to suit themselves. To be within a conservative estimate \$50,000, rather than \$25,000, should be given for operating and maintaining.

But thirdly, and most vitally, is the prospectus specious in its calculation of revenue.

The very frank admission that the new company proposes to take away 75 per cent. of another company's business, and then calmly estimate that business at \$125,000 a year on the best information it could get from reports for twenty years (but which did not cover the record for the last fifteen years), is, to say the least, amusing. To take the very largest single item and then build up to suit the fancy is not the usual way to arrive at a business estimate.

This might answer if the company had held on without competition. Perhaps the two days' inspection did not discover the fact that after 1880 the Norfolk & Southern Railroad came into existence, and after that date this business has been divided between the two competing lines, rail and water. Another vital item to consider is that no matter how the volume may have increased, rates have decreased in far greater proportion. So, between the coming in of a competitor for the business and the decrease to lower rates, the estimate should have been calculated from an average of several years, with due allowance for the shrinkage in rates, and there would have been a more reasonable probability of arriving at a conclusion nearer to the fact. It may be the "most reliable information" was obtained from sources thought trustworthy, but unfortunately that source is misleading as to the chief source of their revenue.

This item is specious and misleading in another point, in that the new company is going to take 75 per cent. of the Albemarle & Chesapeake canal business. There is one large part it can never get, and that is the rafts. It will be many a day before that method of shipping lumber is discarded. To quote his own authority, Major Stanton, the pine forests will reproduce themselves, and reproduced, the timber cut near the water's edge will come by water route, and no canal, with locks and levees varying over twenty feet, can compete for this business with a canal without locks, as is the case with the Albemarle & Chesapeake canal four times in each twenty-four hours ordinarily. The loss of this cuts heavily into the estimated 75 per cent. With the reconstructed canal of forty feet wide bottom some of the heavier draft craft may go that route, but with the slow speed required on account of the suction, so much time to make the trip will be

required that smaller craft, the oyster, melon and truck carriers, will take the older route, saving several hours each trip. Here is another cut into the 75 per cent. to be predated from the Albemarle & Chesapeake canal. As usually happens when competition begins, rates are cut, and it would be a very natural course for the older and established and cheaper-maintained canal to do the business at such rates that this new company with its desired 75 per cent. would be as the old Dismal Swamp canal was in 1863, when the tax-gatherer came for his income tax—"not enough revenue to pay lock-keepers, etc."

This only shows the danger of trusting to hearsay information. Had facts, not fancies, been in hand, no such wild prediction as \$137,000 to \$177,000 revenue would have been predicted, and anyone at all acquainted with the maintenance of canals in such soil as this and used as such canals are would have based his expense at double the \$25,000 estimate. So to those who know, half of the above estimate would be a full estimate, and the resulting low remuneration for so large an investment in so problematical a venture as the future of canal navigation must be, there is some doubt as to the real intention of the promoters of this scheme.

Again is this revenue fallacious in counting on so large a part of the Norfolk & Southern Railroad revenue. The railroad freight is of an express nature, and as the railroad freights, owing to this very water competition, are kept on a basis reasonable to the shipper and more or less remunerative to the railroad, such shipments as now go by rail will in the nature of trade continue to go by rail, and as the rail route must be shorter in time than the new long canal, the more likely probability is that the railroad may, by increase of business and lowering of rates, materially lessen the 10 per cent. of the revenue expected by the canal.

Also in its expected revenue from sale of water to the city of Norfolk is it fallacious. That plan has not worked in the past. Why should it in the near future? Nobody doubts the ability of Lake Drummond to supply the quantity if it is ever called on to do so. Norfolk is rapidly getting to be a manufacturing city, with steam as its power. Do those conversant with the chemical action of this water on iron and steel boilers clamor for Lake Drummond water? It may not be necessary to educate the people to its use as a supply in case of fire, but who can teach them how to use it in laundry without tanning their garments? (See the whole of the McAlpine report on this subject.) It may be good. It has kept well for years out in the Dismal Swamp, and in all probability will continue to do so for years before it will, in the prospectus way, afford any revenue to the canal company.

Another specious item is the valuation of the property offered for the million dollars it expects from investors.

The prospectus says that up to 1855 the canal had cost \$1,152,000, and that since then probably \$200,000 more had been spent upon it. It does not mention that from 1882 to 1894 this valuable property that had cost \$1,350,000 was widely advertised for sale under foreclosure at home and abroad, and after several attempts was finally sold to the present owners for about \$50,000.

The prospectus says that an entirely new canal on the scale desired would probably cost \$2,500,000, so if \$800,000 is expended on this canal they have a property worth today \$1,700,000. Yet it is sold within a year for \$50,000!

Those well acquainted with the subject think that an entirely new line would cost less than what will be required to reconstruct the old canal to size wanted.

In 1878 the United States government engineers' report shows that for improvement not as extensive as is now proposed, \$1,500,000 would be required. This prospectus proposes for \$750,000 to do even more. Is it not possible that it may be only a repetition of history, the Dismal Swamp Company, ever begging for and sometimes getting aid from government, State or individual, and then, after having cost nearly \$1,500,000, be sold for \$50,000.

If parties can get hold of a piece of property for \$50,000, and then say to an investor, "If you will give us \$1,000,000 we will spend \$800,000 for improvements," who gets the profit? who gets value received, investor or promoter? As we have said that engineering skill could, if they pay no regard to cost, overcome the difficulties of construction, so we think it is possible somebody may be found to invest their money in this scheme.

This prospectus emanated from No. 35 Wall street, New York. Is this ominous? Wall street has shorn many a lamb.

As this is specious and misleading as to its financial figures, so is it in its physical facts.

The old Dismal Swamp canal was originated, as history tells us, as a project of

George Washington. The Albemarle & Chesapeake canal, nearly three-quarters of a century later, because of the complete failure of the old Dismal Swamp canal to improve and enlarge its capacity for the growing demands of the country, and was built on a line of inland navigation predicted by Robert Fulton many years before as the natural and most feasible route by water from the sounds of North Carolina to Chesapeake Bay and Northern points.

Passing over the earlier history of the Dismal Swamp canal we find that, notwithstanding the aid from the State of Virginia and the United States government given at various times (amounting to 80 per cent. of the capital stock, leaving only 20 per cent. as contributed by individuals,) the canal was a financial failure, and became so unable to meet the requirements of the demands of trade that a new canal became necessary. This demand was so apparent that the new Albemarle & Chesapeake canal was built of a capacity that was then thought would be ample for all demands likely ever to be made on it. The old Dismal Swamp canal had seven locks, with varying lifts. The new canal had but one lock, which lock, being a tide lock, is in effect an open canal four times in each twenty-four hours in ordinary weather, built of most substantial masonry and until very recently the largest lock in the United States. The work was hardly completed when the war broke out. In the vicissitudes of that epoch the works suffered no little damage, and required a large expenditure to restore them to their original design. With the increased facilities afforded by the new and larger canal to trade, the necessity of the canal became apparent as soon as the country revived from the disastrous effects of the war. The route from North Carolina to Norfolk was shortened by the quicker and surer passage of the vessels plying between them. This was an improved canal, and the originator of steam-towing. It had no towpath, as all its predecessors had had. As the trade increased the United States government was asked to improve the natural waterways which this canal connected, and it did so very generously and very successfully.

The Dismal Swamp Canal Co., recognizing its decreasing trade, which naturally went where it could get better facilities and quicker dispatch, and fearing annihilation from the success of its competitor, began to clamor for more government aid, and to claim that it was the route that should have the government aid. The Albemarle & Chesapeake canal did not ask the government to aid it on its own property, as the Dismal Swamp canal was always doing, but merely asked the government to improve government property, namely, the natural waterways.

Fully aware that the government could not be expected to contribute aid to both canals, a resolution of Congress was obtained for a government survey of the two routes to determine which was the better one and so to decide upon which public waterway the future government improvements should be made. The very exhaustive survey made in 1878 by Captain Phillips conclusively showed that the Albemarle & Chesapeake canal route was the more feasible and the cheapest route. He did not say the Dismal Swamp could not be made an adequate canal, but said that the Albemarle & Chesapeake could be made as large and serviceable for one-third of the expenditure. For this reason since that time government improvements in government waterways have been made on the Albemarle & Chesapeake canal line. For the same reason, if it should ever become necessary for the United States to own a canal in this section as a war or coast defence measure, this Albemarle & Chesapeake would be the one it could obtain at least cost. Failing to get the government to rebuild it, the Dismal Swamp canal seems to have gradually failed financially and physically.

As said, the canal is possible of being reconstructed and fitted for use, but the expense would be so enormous it would never pay. It would be too tedious to refute all the misleading statements in the prospectus. It is easy to understand how easily, possibly unintentionally, one who made in two days an investigating trip that should have taken months could be misled by unreliable information.

In selecting facts on which to base a prospectus by which the public are to be solicited to contribute money, none but facts that are plainly true beyond all question should be considered for a moment, and any fact, statement or inference that lacked this certainty of truth should be unworthy of mention.

ALBEMARLE & CHESAPEAKE
CANAL COMPANY,
Norfolk, Va.

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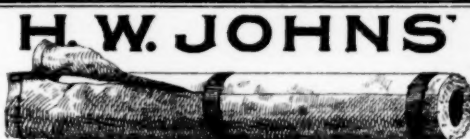
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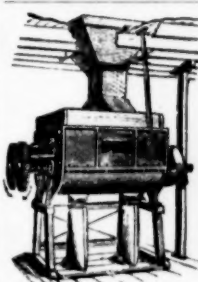
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and the most extensive property of massive
Corundum ever found. For particulars write
F. R. HEWITT, Hewitt, Swain County, N. C.

FOR SALE.

6000 ACRES COAL and TIMBER LANDS

located on Big Black Mountain, in Harlan county,
Kentucky, and about seven miles from Big Stone
Gap, Va. This region is, according to the State
reports the richest coal field in the State, and the
coal is very pure and of fine quality. The land
is covered by a heavy virgin forest of oak,
chestnut, whitewood, ash, etc.

N. G. KANT, Owner,

313 Columbia Street, BROOKLYN, N. Y.

ATTENTION

Market Gardeners, Truck Farmers,
Fruit Growers and Stockmen.

500,000 ACRES OF LAND FOR SALE.

In Tracts to suit purchasers, from 40 acres
upwards. Situated on the line of the

MOBILE & OHIO RAILROAD

In the States of

Alabama and Mississippi.

Unexcelled for the Production of Early
Vegetables and Fruit.

Mild Climate, Pure Water, Absolute
Healthfulness and Easy Access to
the Markets of the World.

Low rates of Freight, quick transit, ventilated
and refrigerator cars, and all modern facilities
for handling the business. Write for Full In-
formation, Maps, etc., to

HENRY FONDE,

President of Alabama Land & Development Co.
MOBILE, ALA.

BALTIMORE

CITY DIRECTORY

FOR 1896.

The canvass for the above work has been
completed, and it will be put to press the
21ST DECEMBER.

Parties who have changed their residence
or business locations since the 15TH of
SEPTEMBER, or contemplate changing
the style of their firm, to INSURE A
CORRECT INSERTION IN SAME,
will please address

BENJ. R. SHERIFF,

Manager for R. L. POLK & CO.

112 North Charles Street, BALTIMORE, MD.

PROPOSALS.

**PROPOSALS FOR MISCELLANEOUS ARTI-
CLES.**—Office of Light-House Engineer,
Fifth District, Baltimore, Md., January 14, 1896.
Sealed proposals will be received at this office
until 12 o'clock M., Wednesday, the 23rd day of
January, 1896, for furnishing Miscellaneous Arti-
cles for use in the Fifth Light House District,
until June 30, 1896, as follows: Lot 1, Anthra-
cite and Bituminous Coal; Lot 2, Building Ma-
terial; Lot 3, Hardware, Tools, etc.; Lot 4,
Lumber, etc.; Lot 5, Paints, etc.; Lot 6, Provi-
sions; Lot 7, Ship Chandlery, etc.; and Lot 8,
Tin, Galvanized Iron, etc. Bids will be received
for one or more numbered lots complete. Specifi-
cations, form of bid and full information may
be obtained on application to this office. The
right is reserved to reject any or all bids, and to
waive any defects. Bidders are invited to be
present at the opening of the proposals. **E. H.
RUFFNER,** Major of Engineers, U. S. A., En-
gineer of Fifth District.

TREASURY DEPARTMENT, Office Supervi-
sing Architect, Washington, D. C., January
18, 1896. Sealed proposals will be received at
this office until 2 o'clock P. M. on the 14th day of
February, 1896, and opened immediately there-
after, for all the labor and materials required for
the floor arches, tower roof, tower stairs, etc., for
the U. S. Postoffice building at Washington, D. C.,
in accordance with drawings and specification,
copies of which may be had at this office or the
office of the Superintendent, Washington, D. C.
Each bid must be accompanied by a certified
check for five hundred dollars. The right is
reserved to reject any and all bids or to waive
any defect or informality in any bid, should it be
deemed in the interest of the Government to do
so. All proposals received after the time stated
will be returned to the bidders. Proposals must
be enclosed in envelopes, sealed and marked,
"Proposal for Floor Arches, etc., for the U. S.
Postoffice at Washington, D. C.," and addressed to
WM. MARTIN AIKEN, Supervising Archi-
tect.

TREASURY DEPARTMENT, Office Supervi-
sing Architect, Washington, D. C., January
10, 1896.—Sealed proposals will be received at
this office until 2 o'clock P. M. on the 28th day of
January, 1896, and opened immediately thereafter,

for all the labor and materials required for the
new high pressure steam boilers, etc., in the U.
S. Courthouse and Postoffice building at Philadel-
phia, Pa., in accordance with drawings and
specification, copies of which may be had at this
office or at the office of the Custodian at Phila-
delphia, Pa. Each bid must be accompanied by
a certified check for one hundred and fifty dol-
lars (\$150.00). The right is reserved to reject any
or all bids and to waive any defect or informality
in any bid should it be deemed in the interest of
the Government to do so. All proposals received
after the time stated will be returned to the
bidders. Proposals must be enclosed in envel-
opes, sealed and marked, "Proposal for New
High Pressure Steam Boilers, etc., for the U. S.
Courthouse and Postoffice building at Philadel-
phia, Pa.," and addressed to **WM. MARTIN
AIKEN,** Supervising Architect.

PUMPING STATION.

OFFICE BOARD COMMISSIONERS, ORLEANS }
LEVEE DISTRICT, MASONIC BUILDING, }
NEW ORLEANS, LA., Dec. 24, 1895.

Sealed proposals will be received at the office
of this Board up to Tuesday, February 11, 1896, at
1 P. M., for the erection of a pumping station,
including machinery, foundations, buildings, etc.,
in conformity with plans and specifications in this
office.

All bidders must deposit \$1,000 in currency or
certified check at the time of making bid, to in-
sure signing of contract.

The Board reserves the right to reject any and
all bids. Other information as to location and
character of work and terms of payment, as also
blank forms of proposals may be obtained at the
office of the Board.

FELIX J. DREYFOUS, President.

FRANK MARQUEZ, Secretary.

MUNICIPAL BONDS

FOR SALE.

Sealed bids for the purchase of the fol-
lowing described Bonds, to wit: The Water
Works and Electric Light Bonds, issued
by the city of Dublin, Ga., to the amount
of \$25,000, in denominations of from \$100
to \$5000 each, as desired by purchaser,
bearing interest at the rate of 6 per cent.
per annum from the date of issue, payable
semi-annually in gold at Hanover National
Bank, of New York city, the principal
amount of said Bonds to become due and
payable in gold at Hanover National Bank,
aforesaid, thirty years after the date of
issue—said bonds having coupons attached
thereto covering the interest as same shall
become due and payable. Bids will be re-
ceived for any amount or all of said issue
of Bonds up to the said 20th day of Feb-
ruary, 1896, and the right is hereby reserved
to reject any or all bids.

For further information apply to **N. B.
Baum,** Chairman of Water Works and
Electric Light Committee, or to **J. B. San-
ders,** Mayor of Dublin, Ga.

This 16th day of January, 1896.

N. B. BAUM, Chairman,
DUBLIN, GA.

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BALTIMORE, MD.

